Forensic NVR User's Manual

Version 2.2.0

Table of Contents

Welcome

Thank you for purchasing our NVR!
This user's manual is designed to be a reference tool for the installation and operation of your system.
Here you can find information about this series NVR features and functions, as well as a detailed menu tree.
Before installation and operation please read the following safeguards and warnings carefully!

Important Safeguards and Warnings

1．Electrical safety

All installation and operation here should conform to your local electrical safety codes.
We assume no liability or responsibility for all the fires or electrical shock caused by improper handling or installation.

2．Transportation security

Heavy stress, violent vibration or water splash are not allowed during transportation, storage and installation.

3．Installation

Keep upwards. Handle with care.
Do not apply power to the NVR before completing installation.
Do not place objects on the NVR

4．Qualified engineers needed

All the examination and repair work should be done by the qualified service engineers.
We are not liable for any problems caused by unauthorized modifications or attempted repair.

5．Environment

The NVR should be installed in a cool, dry place away from direct sunlight, inflammable, explosive substances and etc.
This series product shall be transported, storage and used in the environment ranging from 0℃ to 50 ℃

6. Accessories

Be sure to use all the accessories recommended by manufacturer.
Before installation, please open the package and check all the components are included.
Contact your local retailer ASAP if something is broken in your package.

7. Lithium battery

Improper battery use may result in fire, explosion, or personal injury!
When replace the battery, please make sure you are using the same model!

1 FEATURES AND SPECIFICATIONS

1.1 Overview

This series product is a digital monitor product designed for forensic field. It adopts embedded Linux OS to maintain reliable operation. Popular H.264 compression algorithm and G.711 audio compression technology realize high quality, low bit stream. Unique frame by frame play function is suitable for detailed analysis. It has various functions such as record, playback, monitor at the same time and can guarantee audio video synchronization. This series product has advanced control technology and strong network data transmission function.

Now it supports dual-CD burning, dual backup and temperature, humidity overlay, and PIP function. The several audio input methods can meet the high audio requirements during the interrogation process.

1.2 Features

This series product has the following features:

- **Real-time monitor**

It has analog output port, VGA port and HDMI port. You can use monitor or displayer to realize surveillance function.
System supports TV/VGA/HDMI output at the same time.

- **Storage function**

Special data format to guarantee data security and can avoid vicious data modification.

- **Compression format**

Support multiple-channel audio and video. An independent hardware decodes the audio and video signal from each channel to maintain video and audio synchronization.

- **Backup function**

Support backup operation via USB port (such as flash disk, portable HDD, burner and etc.).
Client-end user can download the file to local HDD to backup via network.

- **Record playback function**

Support each channel real-time record independently, and at the same time it can support search, forward play, record search, download and etc.
Support various playback modes: slow play, fast play, backward play and frame by frame play.
Support time title overlay so that you can view event accurate occurred time
Support specified zone enlargement.
Support playback from compact disc.

- **Network operation**

Support network remote real-time monitor, remote record search and remote PTZ control.

- **Alarm activation function**

Several relay alarm outputs to realize alarm activation and on-site light control.
The alarm input port and output has the protection circuit to guarantee device safety.

- **Communication port**

RS485 port can realize alarm input and PTZ control. Support communication with temperature and humidity display device.
RS232 port can connect to keyboard to realize central control, and can also connect to PC COM to upgrade system and realize maintenance, and matrix control.
RS422 port allows the communication with the temperature and humidity display device.
Standard Ethernet port can realize network access function.
Dual Ethernet ports support configuration modes such as multiple access, fault-tolerance and load balancing.

- **PTZ control**

Support PTZ decoder via RS485.
Support various decode protocols to allow the PTZ to control the speed dome.

- **Intelligent operation**

Mouse operation function
In the menu, support copy and paste setup function

- **UPnP**

It is to establish the mapping relationship between the LAN and the WAN via the UPnP protocol.

1.3 Special Features

- Time information overlay, channel information overlay, temperature and humidity information overlay

Time information is on the top right corner by default. Channel information is on bottom left corner by default. Temperature and humidity information is on top left corner by default. Time information position and channel information position can be modified. You can change channel name if necessary. Please note, before you overlay temperature and humidity information, please go to chapter 4.2.7.7 to set corresponding temperature and humidity protocol, set overlay channel name and position, and set to overlay when preview or encode. The temperature and humidity device can communicate with NVR via RS232/485 port.

- Sound audio effect
- System adopts G711A compression algorithm. It can lower the noise and enhance definition and restore vivid original status.
- 48KHz sampling rate, standard CD audio quality.

- Preview PIP

Support PIP (picture in picture) function so that you can view the specified position in detail and at the same time observe the whole situation.

- PIP mixed audio

For PIP channel, it can mix the corresponding audio.

- Real-time burning

System supports synchronization burning, alternative burning and circle burning.
You can backup current monitor data to the specified DVD (one or several DVDs) and if there are two channels, system can memorized in PIP mode to CD by default.

- ✧ Synchronization burning: The specified device can burn the same data at the same time. It stops when burning process is over or you can stop manually.
- ✧ Alternative burning: System supports several burners to backup in turn. You can insert the newt CD to continue backup once the current one is full. Please note in order to guarantee there is no data loss between these two CDs, please make sure current record function is normal.
- ✧ Circle burning: This function is based on alternative backup. When the first CD is full, burner pops up the CD and you can input a new one to continue. Once the alternative backup is full, system goes back to the first CD to begin burning.

- Switch CD function

When the CD free space reaches a threshold, system can alert you. (You can specify a value here. Minimum value is 50M) After you insert the new CD, system reads the previous three to five minutes data to current CD and then start burning. Please note during the whole process, you need to make sure manual record is working properly and record is successful.

- CD playback

You can use this function to verify the real-time burning data or backup data. System supports CD playback only. If you select several channels when you are burning or backup, you can view the corresponding channel video when you playback from CD. Please note, sometimes one channel may already be PIP mode.

- Title information

To burn the necessary case information, you can set case information via client-end and then send it to the NVR. System can display the title information first and then playback the data.

- PC playback

The burned CD can playback in any PC (support PIP mode). System supports channel switch and mark search. Please note you need to burn the CD player in current CD. If you have selected several channels and burned or backed up in PIP mode, then system display these channels in PIP mode when you play on PC.

- Data encryption

You need to input password to begin CD playback if you have input password when burning.

CD watermark function
System can encrypt data when burning. It allows you to check the data have been tampered with or not.
Slight function differences may be found due to different series.

1.4 Specifications

Parameter	4-channel
System Resources	Support 4-channel HD video. Transmission speed of each channel is 8mbps. Support 10 network users to operate at the same time. The delay of each channel is below 500ms.
OS	Embedded Linux real-time OS
Operation Interface	WEB, local GUI operation
Image Decode Type	H.264/MPEG4
Decode Capability	Max H.264 decode capability is 4-channel *D1. Max MPEG4 decode capability is 1-channel 720p.
Audio Compression Standard	G.711a
Video Input	4-channel network compression video input. Each channel max supports 1080P.
Video Output	1-channel VGA analog video output. 1-channel BNC output.
HD Multiple-media Output	1-channel HDMI HD video output.
Audio Input	Dual-way bidirectional talk function. 1×Line In.
Audio Output	1-channel bidirectional talk audio output.
Window Split Mode	1/4-window. Support PIP function.
Multiple-channel Playback	Support 1/2/3/4-channel local HDD playback function. 1-channel CD-ROM playback. Playback resolution：720P\D1\CIF\QCIF.
Alarm Input	4-channel alarm input. It becomes valid in low voltage. Green wiring terminal port.
Alarm Output	2-channel alarm output. Relay contact (1A@24VDC)， NO/NC programming. Green wiring terminal port.
Storage	4 built-in SATA port. Two for DVD burner and two for SATA HDD.
	Support independent eSATAII port.
RS232 COM	1 RS232 port for debug and transparent COM data transmission.
RS485 COM	1 RS485 port to control external PTZ. Support various protocols.
USB Port	2 external USB port.
Network Port	2 1000M Ethernet ports.
Power Port	1 power socket. AC100～240V 50+2% Hz
Power on-off Button	1 power on-off button at the rear panel.
Power Button	1 power on-off button at the front panel.

IR Receiver	1 remote control receiver at the front panel.
Clock	Built-in clock
Indicator Light	1 device running status indicator light. 4-channel record status indicator light. Network status indicator light. Front-panel power indicator light.
Power Consumption	＜40W (Exclude HDD)
Working Temperature	0℃～+50℃
Working Humidity	10%～90%
Air Pressure	86kpa～106kpa
Dimensions(mm)	390(W)x145(H)x295(D)
Weight	5.5～6.5KG(Exclude HDD)
Installation Mode	Portable

2 Overview and Controls

This section provides information about front panel and rear panel. When you install this series NVR for the first time, please refer to this part first.

2.1 Front Panel

The front panel is shown as in Figure 2-1.

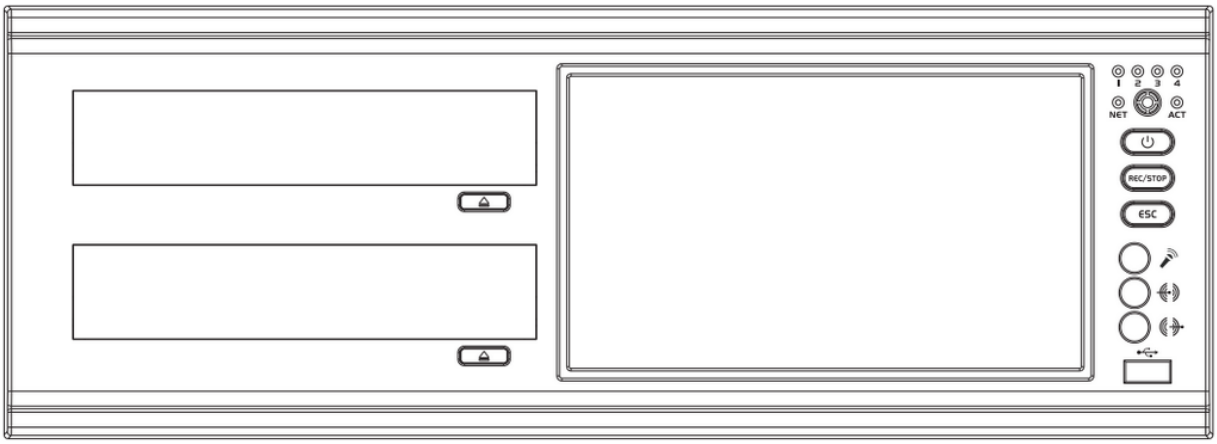


Figure 2-1

Please refer to the following sheet for front panel button information.

Button Name	Icon	Function
HDD record indicator light	**1-4**	The corresponding HDD is recording when it is on.
Network abnormal indicator light	NET	It is to alert you when network is abnormal or no connection.
Remote control indicator light	ACT	Remote control indicator light
Power indicator light	⏻	The light is on when power connection is OK.
Burning Start/stop	REC/STOP	● REC：Start burning. ● STOP：Stop burning.
Cancel	ESC	Exit
Microphone		Microphone port.
Line audio input		Line audio input port.
Line audio output		Line audio output port.
USB port		Connect to mouse, HDD and etc.

2.2 Rear Panel

The NVR rear panel is shown as below. See Figure 2-2.

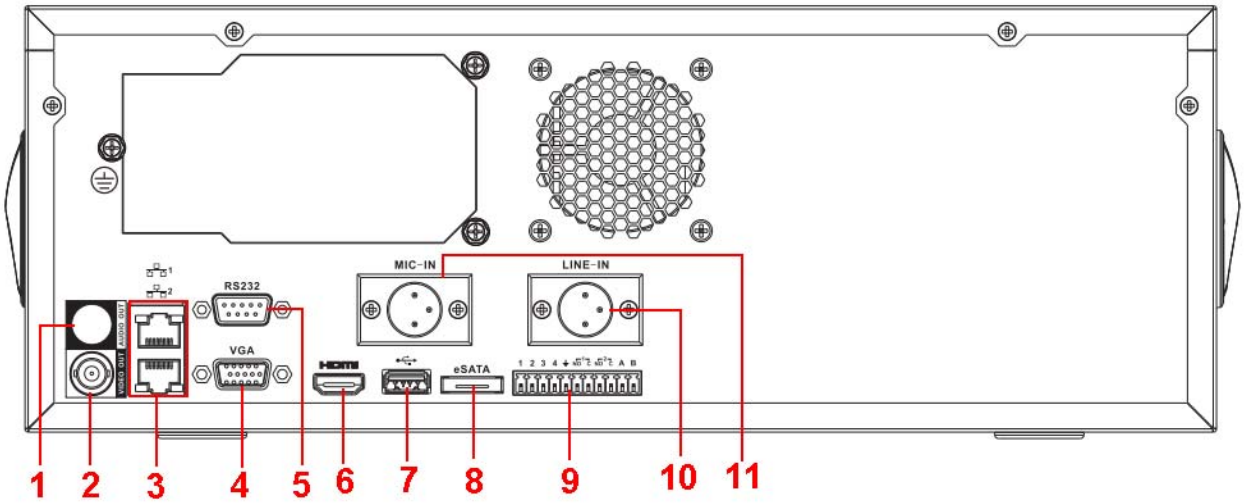


Figure 2-2

Please refer to the following sheet for detailed information.

1	Audio output
2	Video output
3	Network port
4	VGA output
5	RS232 port
6	HDMI port
7	USB port
8	eSATA port
9	Alarm input/alarm output/RS485 port
10	Line audio input port
11	Microphone port

2.3 Connection Sample

Please refer to Figure 2-3 for connection sample.

The following figure is based on our dual-Ethernet port series product.

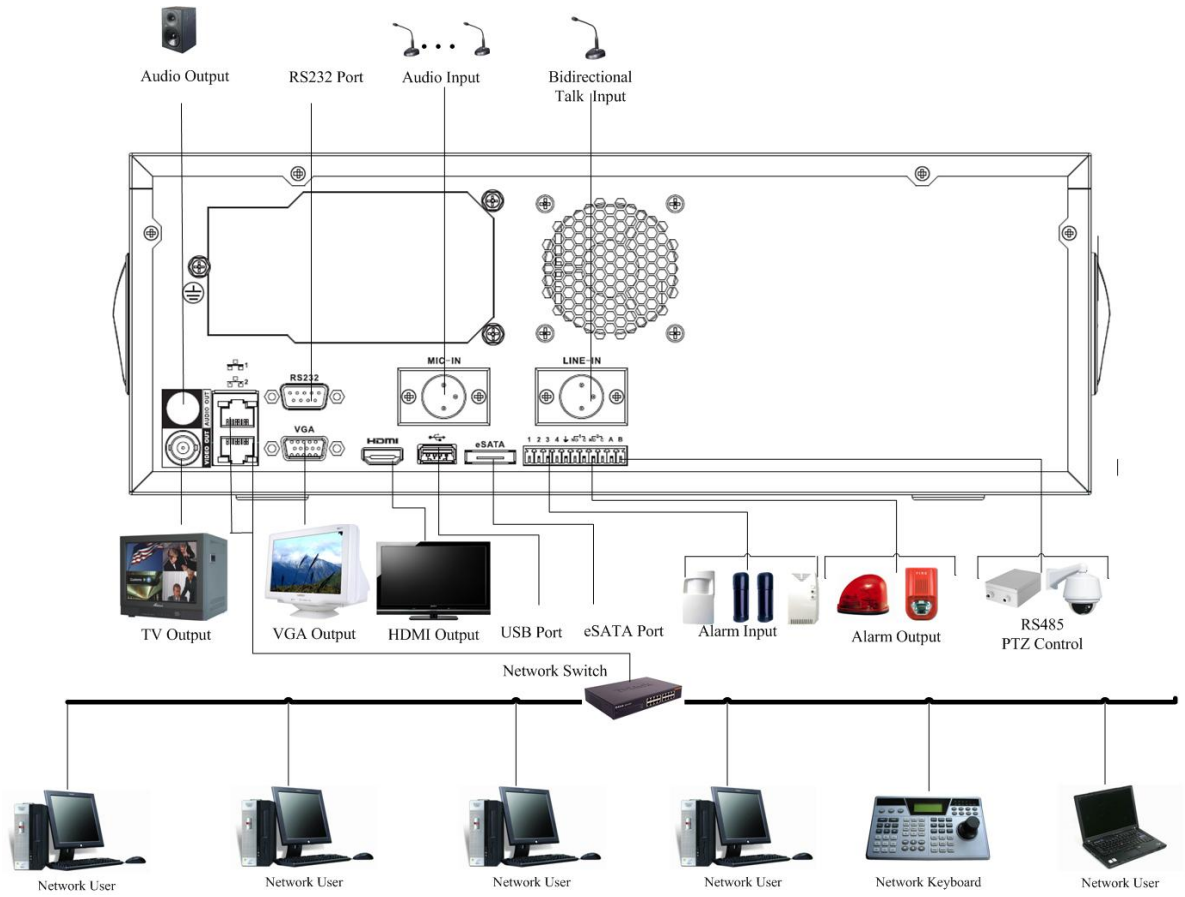


Figure 2-3

2.4 Remote Control

The remote control interface is shown as in Figure 2-4.

Please note remote control is not our standard accessory and it is not included in the accessory bag.

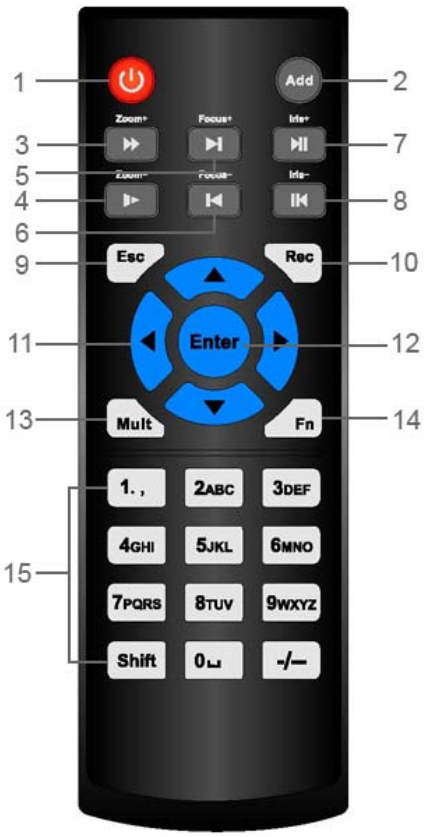


Figure 2-4

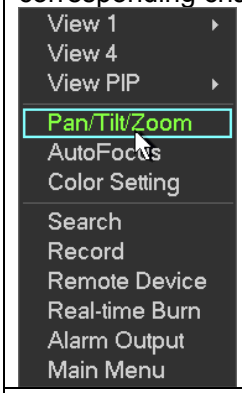
Please refer to the following sheet for detailed information.

Serial Number	Name	Function
1	Power button	Click it to boot up or shut down the device.
2	Address	Click it to input device number, so that you can control it.
3	Forward	Various forward speeds and normal speed playback.
4	Slow play	Multiple slow play speeds or normal playback.
5	Next record	In playback mode, playback the next video.
6	Previous record	In playback mode, playback the previous video.
7	Play/Pause	In pause mode, click this button to realize normal playback.
		In normal playback click this button to pause playback.
		In real-time monitor mode, click this button to enter video search menu.
8	Reverse/pause	Reverse playback pause mode, click this button to realize normal playback.
		In reverse playback click this button to pause playback.

9	Cancel	Go back to previous menu or cancel current operation (close upper interface or control)
10	Record	Start or stop record manually In record interface, working with the direction buttons to select the record channel. Click this button for at least 1.5 seconds, system can go to the Manual Record interface.
11	Direction keys	Switch current activated control, go to left or right. In playback mode, it is to control the playback process bar. Aux function(such as switch the PTZ menu)
12	Confirm /menu key	go to default button go to the menu
13	Multiple-window switch	Switch between multiple-window and one-window.
14	Auxiliary key	In 1-ch monitor mode: pop up assistant function：PTZ control and Video color.
		Switch the PTZ control menu in PTZ control interface.
		In motion detection interface, working with direction keys to complete setup.
15	0-9 number key	Input password, channel or switch channel.
		Shift is the button to switch the input method.

2.5 Mouse Control

Left click mouse	System pops up password input dialogue box if you have not logged in. In real-time monitor mode, you can go to the main menu.
	When you have selected one menu item, left click mouse to view menu content.
	Implement the control operation.
	Modify checkbox or motion detection status.
	Click combo box to pop up drop down list

	In input box, you can select input methods. Left click the corresponding button on the panel you can input numeral/English character (small/capitalized). Here ← stands for backspace button. __ stands for space button. In English input mode: _stands for input a backspace icon and ← stands for deleting the previous character.  In numeral input mode: _ stands for clear and ← stands for deleting the previous numeral. When input special sign, you can click corresponding numeral in the front panel to input. For example, click numeral 1 you can input"/" , or you can click the numeral in the on-screen keyboard directly. 
Double left click mouse	Implement special control operation such as double click one item in the file list to playback the video.
	In multiple-window mode, double left click one channel to view in full-window. Double left click current video again to go back to previous multiple-window mode.
Right click mouse	In real-time monitor mode, pops up shortcut menu: one-window, PIP, Pan/Tilt/Zoom, color setting, search, record, alarm input, alarm output, main menu. Among which, Pan/Tilt/Zoom and color setting applies for current selected channel. If you are in multiple-window mode, system automatically switches to the corresponding channel. 
	Exit current menu without saving the modification.
Press middle button	In numeral input box: Increase or decrease numeral value.
	Switch the items in the check box.
	Page up or page down
Move mouse	Select current control or move control
Drag mouse	Select motion detection zone

	Select privacy mask zone.

2.6 Virtual Keyboard & Front Panel

2.6.1 Virtual Keyboard

The system supports two input methods: numeral input and English character (small and capitalized) input.

Move the cursor to the text column, the text is shown as blue, input button pops up on the right. Click that button to switch between numeral input and English input (capitalized and small), Use > or < to shift between small character and capitalized character.

2.6.2 Front Panel

Move the cursor to the text column. Click Fn key and use direction keys to select number you wanted. Please click enter button to input.

3 Installation and Connections

Note: All the installation and operations here should conform to your local electric safety rules.

3.1 Check Unpacked NVR

When you receive the NVR from the forwarding agent, please check whether there is any visible damage. The protective materials used for the package of the NVR can protect most accidental clashes during transportation. Then you can open the box to check the accessories.
Please check the items in accordance with the list (Remote control is optional). Finally you can remove the protective film of the NVR.

3.2 About Front Panel and Real Panel

The model label in the front panel is very important; please check according to your purchase order.
The label in the rear panel is very important too. Usually we need you to represent the serial number when we provide the service after sales.

3.3 HDD Installation

You can refer to the Appendix for recommended HDD brand.
Please follow the instructions below to install hard disk.
All figures listed here are for reference only.
This series NVR has two SATA HDDs. Please use HDD of 7200rpm or higher.

1. Take the HDD bracket out of the accessories bag and then place the four gaskets to the four holes. .	2. Place the HDD to the holes of the bracket and then use the screws to fix firmly.	3. Secure the brackets of the two sides on the HDD.

4. Unfasten the screws of the rear and side panel of the device.	5. Use special data cable to connect the HDD cable and power cable.	6. Place the bracket in line with the four holes of the device and then use screws to fix from the bottom.

	
7. Put the cover in accordance with the clip and then place the upper cover back.	8. Secure the screws in the rear panel and the side panel.

Important

- When there is a bracket, please make sure the installation direction of HDDs is the same.
- Please pay attention to the front cover. It adopts the vertical sliding design. You need to push the clip first and then put down.

3.4 Rack Installation

Please note this installation mode is for 1.5U/2U series product.
Please follow the steps listed below.

- Use twelve screws to fix the unit
- Please make sure the indoor temperature is below 35℃ (95°f).
- Please make sure there is 15cm (6 inches) space around the device to guarantee sound ventilation.
- Please install from the bottom to the top.
- If there are more accessories connected in the rack, please take precaution measures in case the rack power is overload.

3.5 Connecting Power Supply

Please check input voltage and device power button match or not.
We recommend you use UPS to guarantee steady operation, NVR life span, and other peripheral equipments operation such as cameras.

3.6 Connecting Video Input and Output Devices

3.6.1 Connecting Video Input

The video input interface is BNC. The input video format includes: PAL/NTSC BNC（$1.0V_{P-P}$，75Ω.）.
The video signal should comply with your national standards.
The input video signal shall have high SNR, low distortion; low interference, natural color and suitable lightness.

Guarantee the stability and reliability of the camera signal:

The camera shall be installed in a cool, dry place away from direct sunlight, inflammable, explosive substances and etc.

The camera and the NVR should have the same grounding to ensure the normal operation of the camera.

Guarantee stability and reliability of the transmission line

Please use high quality, sound shielded BNC. Please select suitable BNC model according to the transmission distance.

If the distance is too long, you should use twisted pair cable, and you can add video compensation devices or use optical fiber to ensure video quality.

You should keep the video signal away from the strong electromagnetic interference, especially the high tension current.

Keep connection lugs in well contact

The signal line and shielded wire should be fixed firmly and in well connection. Avoid dry joint, lap welding and oxidation.

3.6.2 Connecting Video Output

Video output includes a BNC(PAL/NTSC1.0V_{P-P}， 75Ω）output ,a VGA output and HDMI output. System supports BNC, VGA and HDMI output at the same time.

When you are using pc-type monitor to replace the monitor, please pay attention to the following points:

- To defer aging, do not allow the pc monitor to run for a long time.
- Regular demagnetization will keep device maintain proper status.
- Keep it away from strong electromagnetic interference devices.

Using TV as video output device is not a reliable substitution method. You also need to reduce the working hour and control the interference from power supply and other devices. The low quality TV may result in device damage.

3.7 Connecting Audio Input & Output, Bidirectional Audio

3.7.1 Audio Input

These series products audio input port adopt BNC port and video compression card.

Due to high impedance of audio input, please use active sound pick-up.

Audio transmission is similar to video transmission. Try to avoid interference, dry joint, loose contact and it shall be away from high tension current.

3.7.2 Audio Output

The audio output signal parameter is usually over 200mv 1KΩ (BNC). It can directly connect to low impedance earphone, active sound box or amplifier-drive audio output device.

If the sound box and the pick-up cannot be separated spatially, it is easy to arouse squeaking. In this case you can adopt the following measures:

- Use better sound pick-up with better directing property.
- Reduce the volume of the sound box.
- Using more sound-absorbing materials in decoration can reduce voice echo and improve acoustics environment.
- Adjust the layout to reduce happening of the squeaking.

3.8 Alarm Input and Output Connection

Please refer to the following sheet for alarm input and output connection.

There are two alarm input types for you to select: normal open (NO) and normal close (NC).

1. Alarm input

a. Please make sure alarm input mode is grounding alarm input.

b. Grounding signal is needed for alarm input.

c. Alarm input needs the low level voltage signal.

d. Alarm input mode can be either NC (normal Open) or NO (Normal Close)

e. When you are connecting two NVRs or you are connecting one NVR and one other device, please use a relay to separate them,

2. Alarm output

The alarm output port should not be connected to high power load directly (It shall be less than 1A) to avoid high current which may result in relay damage. Please use the co contactor to realize the connection between the alarm output port and the load.

3. How to connect PTZ decoder

a. Ensure the decoder has the same grounding with NVR, otherwise you may not control the PTZ. Shielded twisted wire is recommended and the shielded layer is used to connect to the grounding.

b. Avoid high voltage. Ensure proper wiring and some thunder protection measures.

c. For too long signal wires, 120Ω should be parallel connected between A, B lines on the far end to reduce reflection and guarantee the signal quality.

d. “485 A, B” of NVR cannot parallel connect with “485 port” of other device.

e. The voltage between of A,B lines of the decoder should be less than 5v.

4. Please make sure the front-end device has soundly earthed.

Improper grounding may result in chip damage.

3.8.1 Alarm Input and Output Details

You can refer to the following sheet for alarm input and output information.

The series product interface is shown as below. See Figure 3-1.

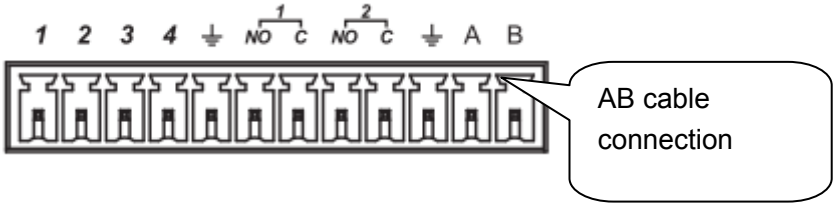


Figure 3-1

Please refer to the following sheet and Figure 3-1 for detailed information.

1，2，3，4，	ALARM 1 to ALARM 4. The alarm becomes active in low voltage.
NO1 C1，NO2 C2	There are two groups of normal open activation output (on/off button)
⏚	Earth cable.
485 A/B	485 communication port. They are used to control devices such as PTZ. Please parallel connect 120TΩ between A/B cables if there are too many PTZ decoders.

3.8.2 Alarm Input Port

Please refer to the following sheet for more information.

- Normal open or Normal close type.
- Please parallel connect COM end and GND end of the alarm detector (Provide external power to the alarm detector).
- Please parallel connect the Ground of the NVR and the ground of the alarm detector.
- Please connect the NC port of the alarm sensor to the NVR alarm input(ALARM)
- Use the same ground with that of NVR if you use external power to the alarm device.

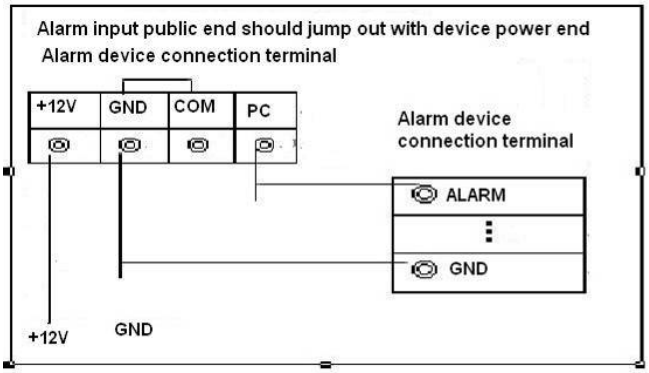


Figure 3-2

3.8.3 Alarm Output Port

- Provide power to peripheral alarm device.
- To avoid overloading, please read the following relay parameters sheet carefully.
- RS485 A/B cable is for the A/B cable of the PTZ decoder.

Relay Specification

Model:	**JRC-27F**	
Material of the touch	Silver	
Rating （Resistance Load）	Rated switch capacity	30VDC 2A, 125VAC 1A
	Maximum switch power	125VA 160W
	Maximum switch voltage	250VAC, 220VDC
	Maximum switch currency	1A
Insulation	Between touches with same polarity	1000VAC 1minute
	Between touches with different polarity	1000VAC 1minute
	Between touch and winding	1000VAC 1minute
Surge voltage	Between touches with same polarity	1500V (10×160us)
Length of open time	3ms max	
Length of close time	3ms max	
Longevity	Mechanical	50×106 times (3Hz)
	Electrical	200×103 times (0.5Hz)
Temperature	-40℃ ~+70℃	

3.9 RS232

You can connect the NVR with POS or Keyboard through RS232.
With POS system, the NVR can communicate through RS232 and network. For the POS system, the NVR can integrate the text content and even search the record through the info.
The series NVR also support NKB operation. You can operate the NVR from the keyboard controls instead of using the control pad on the front panel of the unit.
To connect a NKB keyboard to the NVR:
1. Assemble the KBD keyboard according to the instructions in its accompanying installation manual.
2. Connect the KBD keyboard into one of the RS232 ports on the NVR or through network.

3.10 RS485

When the NVR receives a camera control command, it transmits that command up the coaxial cable to the PTZ device. RS485 is a single-direction protocol; the PTZ device can't return any data to the unit. To enable the operation, connect the PTZ device to the RS485 (A,B) input on the NVR. See Figure 3-8.
Since RS485 is disabled by default for each camera, you must enable the PTZ settings first. This series NVRs support multiple protocols such as Pelco-D, Pelco-P.
To connect PTZ devices to the NVR:
1. Connect RS485 A,B on the NVR rear panel.
2. Connect the other end of the cable to the proper pins in the connector on the camera.
3. Please follow the instructions to configure a camera to enable each PTZ device on the NVR.

3.11 Other Interfaces

There are still other interfaces on the NVR, such as USB ports.

4 Understanding of Menu Operations and Controls

Before operation, please make sure:

- You have properly installed HDD and all the cable connections.
- The provided input power and the device power are matched.
- The external power shall be AC100～240V 50+2% Hz.
- Always use the stable current, if necessary UPS is a best alternative measure.

4.1 Login, Logout & Main Menu

4.1.1 Login

After system booted up, system pops up the startup wizard.

Click the Cancel button; you can go to the system login interface.

Click the Next Step button; you can go to the startup wizard interface. Here you can set the system basic information. See Figure 4-1.

Figure 4-1

The system login interface is shown as in Figure 4-2.

System consists of four accounts:

- **Username:** admin. **Password:** admin. (administrator, local and network)
- **Username:** 888888. **Password:** 888888. (administrator, local only)
- **Username:** 666666. **Password:** 666666(Lower authority user who can only monitor, playback, backup and etc.)
- **Username**: default. **Password**: default(hidden user)

You can use USB mouse, front panel, or keyboard to input. About input method: Click 123 to switch between numeral, English character (small/capitalized) and denotation.

Note:

For security reason, please modify password after you first login.

Within 30 minutes, three times login failure will result in system alarm and six times login failure will result in account lock!

Figure 4-2

4.1.2 Main Menu

After you logged in, the system main menu is shown as below. See Figure 4-3.

There are total seven icons: search, information, setting, remote device, backup, advanced and shutdown.

You can move the cursor to highlight the icon, and then double click mouse to enter the sub-menu.

Figure 4-3

4.1.3 Logout

There are two ways for you to log out.

One is from menu option:

In the main menu, click shutdown button, you can see an interface is shown as below. See Figure 4-4.

Figure 4-4

There are several options for you. See Figure 4-5.

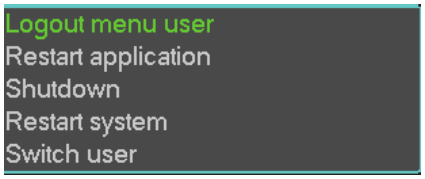


Figure 4-5

The other ways is to press power button on the front panel for at least 3 seconds, system will stop all operations. Then you can click the power button in the rear panel to turn off the NVR.

4.1.4 Auto Resume after Power Failure

The system can automatically backup video and resume previous working status after power failure.

4.1.5 Replace Button Battery

Please make sure to use the same battery model if possible.

We recommend replace battery regularly (such as one-year) to guarantee system time accuracy.

Note:

Before replacement, please save the system setup, otherwise, you may lose the data completely!

4.1.6 Live Viewing

After you logged in, the system is in live viewing mode. You can see system date, time and channel name. If you want to change system date and time, you can refer to general settings (Main Menu->Setting->General). If you want to modify the channel name, please refer to the display settings (Main Menu->Setting->Display). You can view there is a volume bar at the right bottom corner. The volume bar becomes red when it is the max value. It is the mixed audio volume when system is in PIP mode.

1		Recording status	3		Video loss
2		Motion detection	4		Camera lock

Right click mouse, you can see system pops up the following menu. See Figure 4-6.

Please refer to the following sheet for detailed information.

Name	Function
View 1	System displays in one-channel. You can select channel 1 to channel 4.
View 4	System displays in 4-window.
View PIP	System displays in picture in picture mode. One picture is big and one picture is small.
Pan/Tilt/Zoom	Set PTZ parameter and realize fast positioning.
Auto focus	Click it to adjust auto focus distance.
Color Setting	Set video hue, brightness, contrast, saturation and gain. Please note you need to set a period here and the time format shall be 24H.
Search	Search record.
Record	Set record mode.
Remote device	It is the connected IPC setup.

Name	Function
Real-time burn	Click to go to real-time burn interface.
Alarm output	Set alarm output mode.
Main menu	Go to main menu.

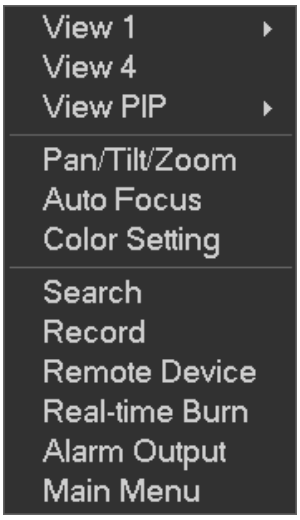


Figure 4-6

4.1.7 PTZ Control

Before the operation, please go to chapter 4.2.5.8 to set PTZ protocol first.

In the one-window surveillance mode, right click mouse (click “fn” Button in the front panel or click AUX key in the remote control). Click Pan/Tilt/Zoom, the interface is shown as below. See Figure 4-7.

Here you can set the following items:

- Step: value ranges fro 1 to 8.
- Zoom
- Focus
- Iris

Please click icon and to adjust zoom, focus and iris.

Figure 4-7

In Figure 4-7, please click direction arrows (See Figure 4-8) to adjust PTZ position. There are total 8 direction arrows.

Figure 4-8

3D Intelligent Positioning Key

In the middle of the eight direction arrows, there is a 3D intelligent positioning key. See Figure 4-9. Please make sure your protocol supports this function and you need to use mouse to control. Click this key, system goes back to the single screen mode. Drag the mouse in the screen to adjust section size. The dragged zone supports 4X to 16X speeds. It can realize PTZ automatically. The smaller zone you dragged, the higher the speed.

Figure 4-9

Here is a sheet for you reference.

Name	Function key	function	Shortcut key	Function key	function	Shortcut Key
Zoom		Near			Far	
Focus		Near			Far	
Iris		close			Open	

Preset/ Patrol/Pattern/Scan

In Figure 4-7, please click the “set” button. The interface is shown as below. See Figure 4-10. Here you can set the following items:

- Preset
- Tour
- Pattern
- Border

Figure 4-10

In Figure 4-7, click page switch button, the interface is shown as in Figure 4-11. Here you can activate the following functions:

- Preset
- Tour
- Pattern
- Auto scan
- Auto pan
- Flip
- Reset
- Page switch

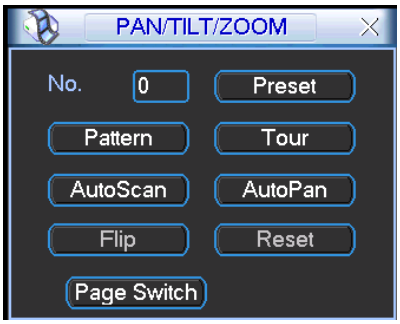


Figure 4-11

Note:

- Preset, tour and pattern all need the value to be the control parameter. You can define it as you require.
- You need to refer to your speed dome user's manual for Aux definition. In some cases, it can be used for special process.
- The following setups are usually operated in the Figure 4-7, Figure 4-10 and Figure 4-11.

Preset Setup

In Figure 4-7, use eight direction arrows to adjust camera to the proper position.

In Figure 4-10, click preset button and input preset number. The interface is shown as in Figure 4-12.

Now you can add this preset to one tour.

Figure 4-12

Activate Preset

In Figure 4-11, please input preset number in the No. blank, and click preset button.

Patrol setup (Tour Setup)

In Figure 4-38, click patrol button. The interface is shown as in Figure 4-13.Input preset number and add this preset to a patrol (tour). For each patrol (tour), you can input max 80 presets.

Figure 4-13

Activate Patrol (tour)

In Figure 4-10, input patrol (tour) number in the No. blank and click patrol button

Pattern Setup

In Figure 4-10, click pattern button and then click “begin” button. The interface is shown as in Figure 4-14. Then you can go to Figure 4-7 X to modify zoom, focus, and iris.

Go back to Figure 4-14 and click “end” button. You can memorize all these operations as pattern 1.

Figure 4-14

Activate Pattern Function

In Figure 4-39, input mode value in the No. blank, and click pattern button.

Auto Scan Setup

In Figure 4-38, click border button. The interface is shown as in Figure 4-43.

Please go to Figure 4-35, use direction arrows to select camera left limit

Then please go to Figure 4-43 and click left limit button

Repeat the above procedures to set right limit.

Figure 4-15

Activate Auto Scan

In Figure 4-11, click “Auto Scan” button, the system begins auto scan. Correspondingly, the auto scan button becomes Stop button. Click stop button to terminate scan operation.

Flip

In Figure 4-11, click page switch button, you can see an interface is shown as below. See Figure 4-16. Here you can set auxiliary function. The aux value has relation ship with the Aux button of the decoder.

Click page switch button again, system goes back to Figure 4-7.

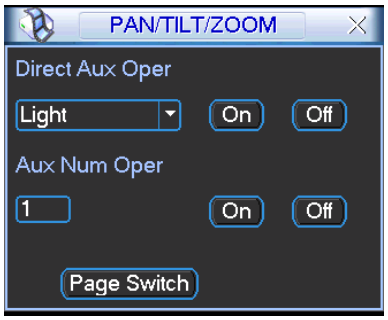


Figure 4-16

In Figure 4-16，click Page Switch button, you can go to Figure 4-17.(Please note only SD1 and SD2 protocol can go to the following interface.)
The direction button here ti to control the speed dome menu. The displayed button here may vary due to different protocol. The button is grey if current protocol does not support this function. Use up/down button to switch between menu items and use left/right button to change setup. Click enter/exit menu button to go to or exit speed dome menu. Click Page Switch button, system goes back to Figure 4-7.

Figure 4-17

4.1.8 PIP Setup

4.1.8.1 Video 1-4 PIP

You can view different channels on the PIP mode. You can follow the steps listed below.

a) From main menu->setting->general, check the navigation bar to enable navigation function. Close general interface and then left click mouse on the preview interface, you can see an interface shown as in Figure 4-18.

Figure 4-18

b) In Figure 4-18, click  to set a mode and then click  . Now system goes to PIP mode.

Tips:

- One the preview interface, right click mouse and then select View PIP mode, then click  on Figure 4-18. You can go to PIP mode.
- The PIP mode uses one channel as the main window. You can select channel 1/23/4 as the main picture.

c) On the PIP interface, click  at the top left corner to select a channel you want to display and then click  to save. In mode 1, you can select 2/3/4 as the PIP mode.

Now you can see an interface shown as in Figure 4-19.You can use mouse to drag the PIP picture to the proper position and drag mouse to zoom in or zoom out.

Figure 4-19

Note

-  : The grey highlighted channel is the main channel. The white channel is the PIP channel and black channel is the current selected channel.
- On the PIP mode, the volume bar is the mixed audio. For mode 1 to mode 4, system can mix the audio of the main interface and the PIP interface. It is the audio of the PIP preview and record audio.

4.1.8.2 4-window PIP mode

You can view 4-window on the PIP mode. You can follow the steps listed below.

a) From main menu->setting->general, check the navigation bar to enable navigation function. Close general interface and then left click mouse on the preview interface, you can see an interface shown as in Figure 4-20.

Figure 4-20

b) In Figure 4-20, click  to set a mode and then click  . Now system goes to 4-window PIP mode.

c) On the PIP interface, click 3 4 at the top left corner to select a channel you want to display. You can select P1 P2 to set mixed audio and then click to save. See Figure 4-21.

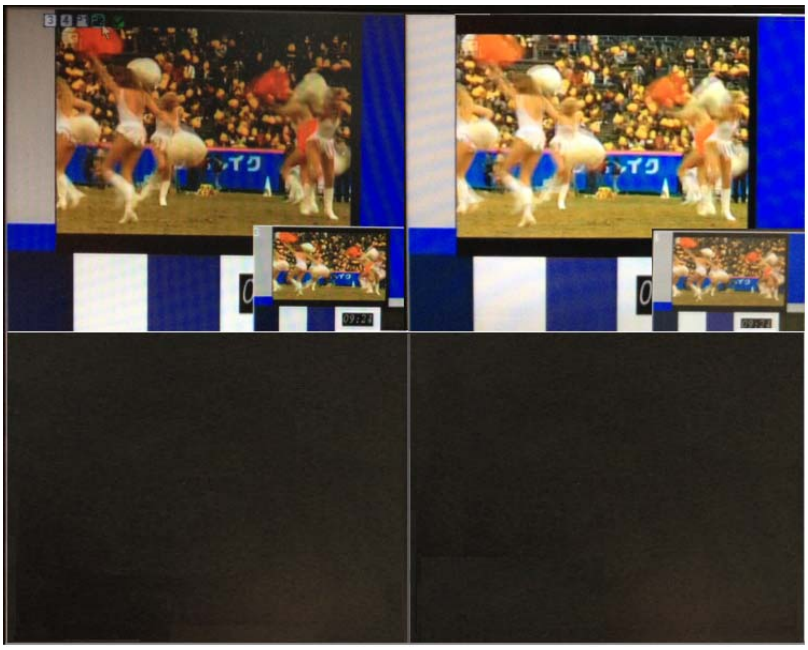


Figure 4-21

Note

- 3 4 P1 P2 : 3 can only be displayed on the first channel and 4 can only be displayed on the second channel. You can click P1 P2 at the top left corner to set mixed audio. P1 is the mixed audio of channel 1 and channel 3. P2 is the mixed audio of channel 2 and channel 4. During the preview mode, you can not select P1 and P2 at the same time. It is the output audio of the preview interface, that is to say it is the audio of the channel P on the PIP mode.
- You can use mouse to drag the PIP picture to the proper position and drag mouse to zoom in or zoom out.

4.1.9 Real-time Burning and CD Playback

This series product can burn real-time video to the CD for future reference. You can click the REC/STOP at the front panel to start or stop burning. Or you can go to the burning interface via the right-click mouse menu. Please follow the steps listed below.

a) One the preview interface, right click mouse and then select real-time burning. You can see an interface shown as in Figure 4-22. **Please note the record channel needs to set as P (PIP), otherwise, you can not see the three setup buttons on the right pane.**

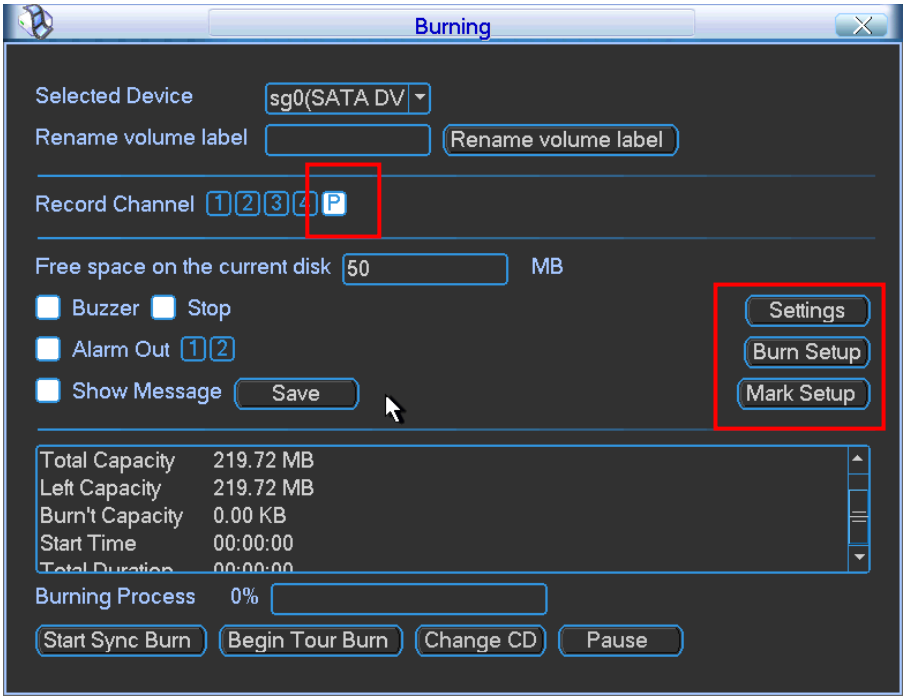


Figure 4-22

Tips

- Click the REC/STOP at the front panel; you can go to burning interface. Click REC/STOP for a short time, you can begin or pause burning. If you click REC/STOP for a long time during the burning process, you can stop burning operation.
- On the left-click mouse menu, select main menu and then click Backup button. Click Burning button, you can go to Figure 4-22 too.

b) Select a device from the dropdown list and then select a record channel.

c) Now you can set burn setup, mark setup and etc. Please note you can not set during the burning process.

Click Settings button, you can see the following interface. See Figure 4-23.

Here you can set interrogation time and resolution. Click Save button. System can calculate the corresponding channel bit stream according to you input information and the CD space.

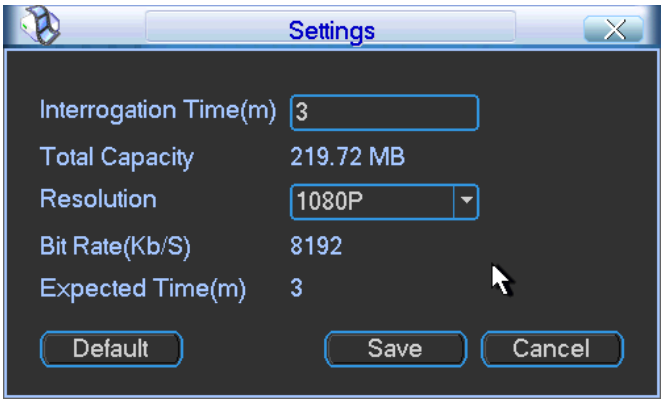


Figure 4-23

Click Burn setup, system pops up the following interface. See Figure 4-24.Please input record password twice to confirm and check the corresponding box here to select information

you want to overlay on the burning record. Check the Check button at the bottom of the interface, system can auto generate verification information during the burning process. You can use the verification information to check the data has been tampered with or not. For detailed CD verification information, you can view chapter 4.1.13.

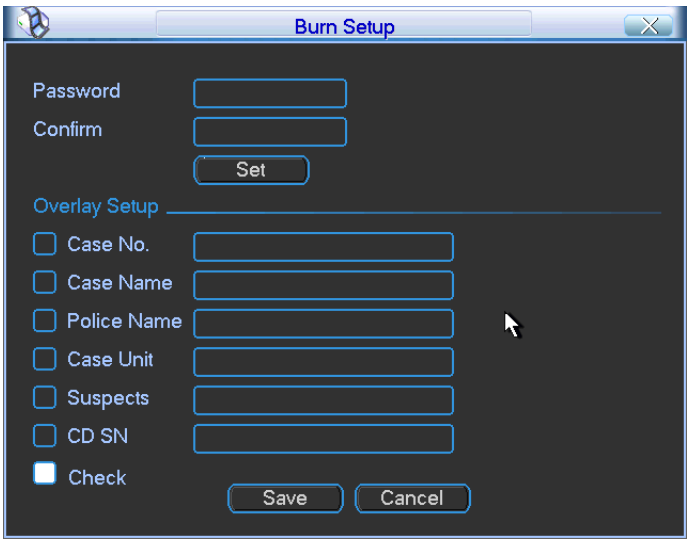


Figure 4-24

You can click Mark setup button if you want to mark during the burning process.

d) Now you can click Start Sync burning on Figure 4-22 to begin burning.

Note

- Start sync burning: You can select one or more CD to burning at the same time. System burns the same data. System stops burning when it finishes burning. Or you can stop manually.
- Start tour burning: You need to select several CD to begin circle burning. System begins burning from the first CD and then auto goes to the second CD until it finishes all CD burning.
- Change CD: During the CD burning process, you can click it to replace CD manually. System pops up current CD and then you can input a new one. System begins burning data from the previous 5 minutes of the previous CD so that there is no missing data between these two CDs.
- Pause: During the burning process, you can pause current burning if the court is adjournment. Click continue button, you can begin burning again and all data is on the same CD.

e) Click OK button on the pop-up dialog box, after you complete the burning.

CD Playback

This function is for you to verify the real-time burning data. You can check the real-time burning data and backup data.

On the preview interface and then right click mouse, select Search.

Or you can go to the search interface, from main menu-search interface.

In Search interface (Figure 4-39), select Play from CD from the dropdown list and then click file list switch button (Button 5 in Figure 4-39). You can see an interface shown as in Figure 4-41. Here you can view file list from the CD. Double click a file name, you can playback a file.

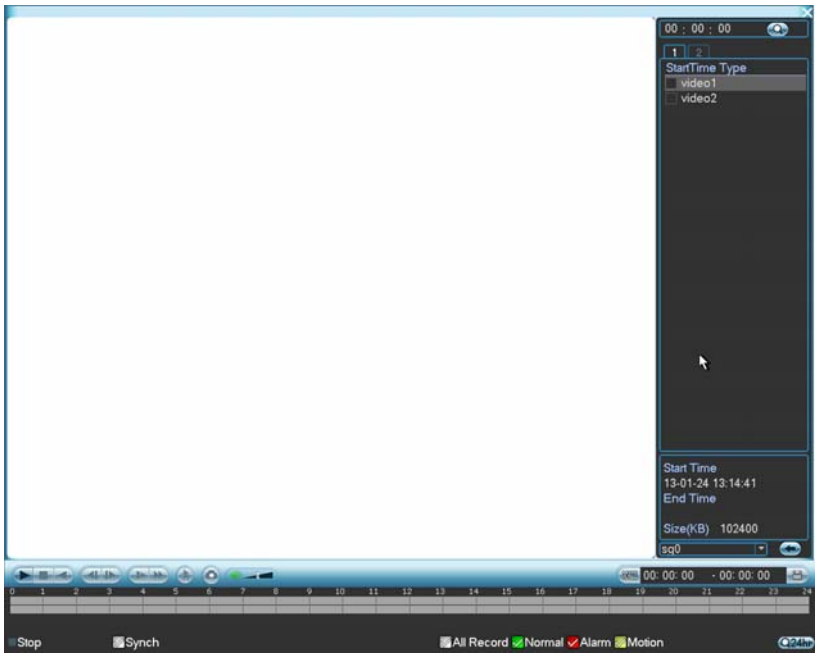


Figure 4-25

Important

Real-time burning and CD playback can not be operated at the same time since these two functions are both for CD-ROM.

4.1.10 Overlay Temperature/Humidity Information

After you connect device to temperature and humidity device, you need to set corresponding parameters so that you can overlay temperature humidity information on the monitor video or record file. You can connect the temperature humidity device via the RS232.

4.1.10.1 RS232 Mode

a) Set COM protocol

On the preview interface, right click mouse and then select main menu, from main menu->advanced->card overlay. The interface is shown as in Figure 4-26.

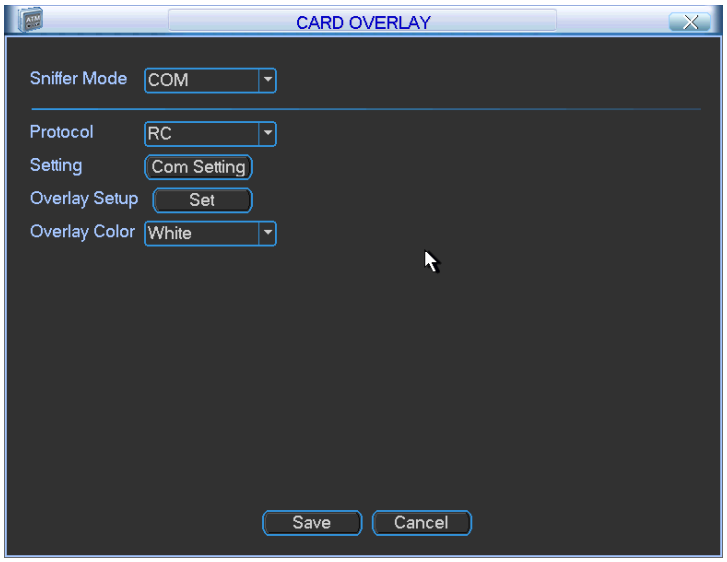


Figure 4-26

Now you can set Sniffer mode as COM and protocol is RC or other protocols. Click COM setting button, you can see COM setup interface. See Figure 4-27.
Now you can set RS232 information. The COM function is the protocol and the baud rate, data bit, stop bit shall be the same with the temperature humidity device. Click Save to save you setup.

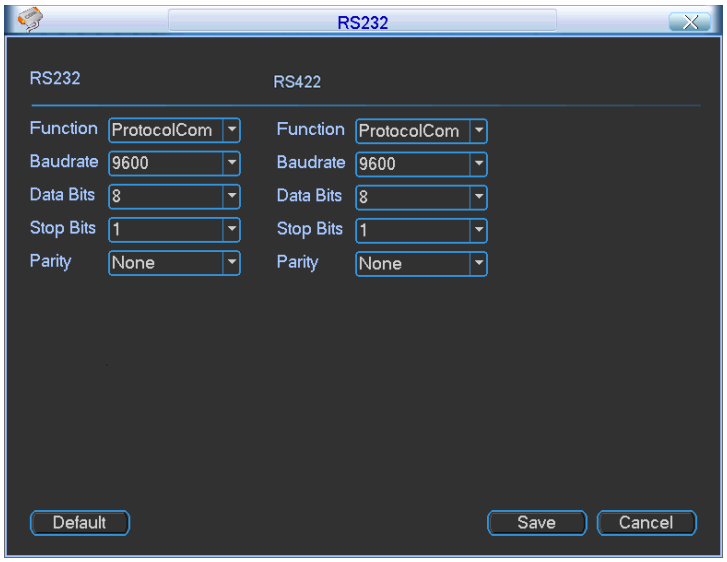


Figure 4-27

In Figure 4-26, select PIP channel from the dropdown list and then click overlay setup button, you can see the following interface. See Figure 4-28.
Check the preview or monitor mode after T/H (Temperature/humidity) and then click Set button to set overlay position. Click Save button to exit.

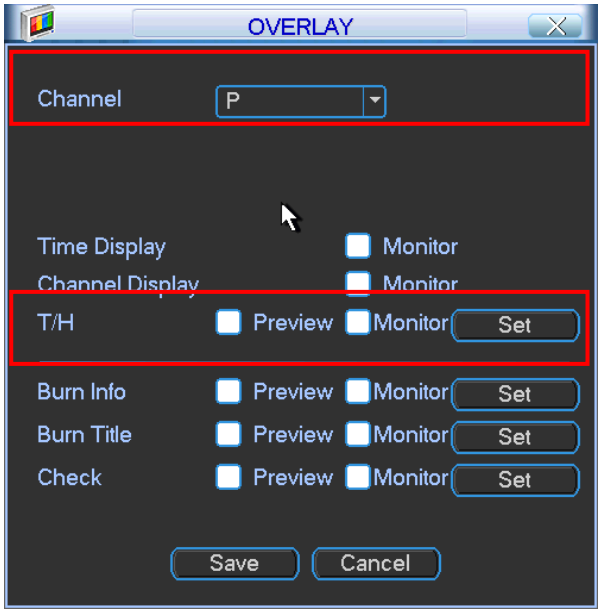


Figure 4-28

Tips

- In Figure 4-28, click Set button, you can set overlay position.
- Each channel can set its own overlay information. The channel 1-4 encode overlay position is corresponding to the overlay effect of its own channel during the preview. The PIP overlay position is corresponding to the 4-window and PIP preview overlay effect.

- Preview means you can overlay temperature humidity information on local preview window. Monitor means you can overly temperature humidity information on the record file so that you can view it when playback.

b) Connect the temperature humidity device to the device via the RS232.

Connect the A/B cable of the temperature humidity device to the A/B cable of the 485 to 232 tool. Connect the RS232 port of the 485 to 232 tool to the RS232 port of the device.

Note:

- Right now the temperature humidity sniffer mode adopts RS485 port. In case it may affect the RS485 PTZ control of the device, the temperature humidity output shall go through a RS485-232 tool so that you can connect the RS232 to the RS232 port of the device.
- For some series RS485-232 tool , it may need power supplying. Otherwise, the data may not stable or there is no data at all. In this situation, device can not overlay information.

4.1.10.2 RS485 Mode

a) Set COM protocol

On the preview interface, right click mouse and then select main menu, from main menu->advanced->card overlay. The interface is shown as in Figure 4-26.

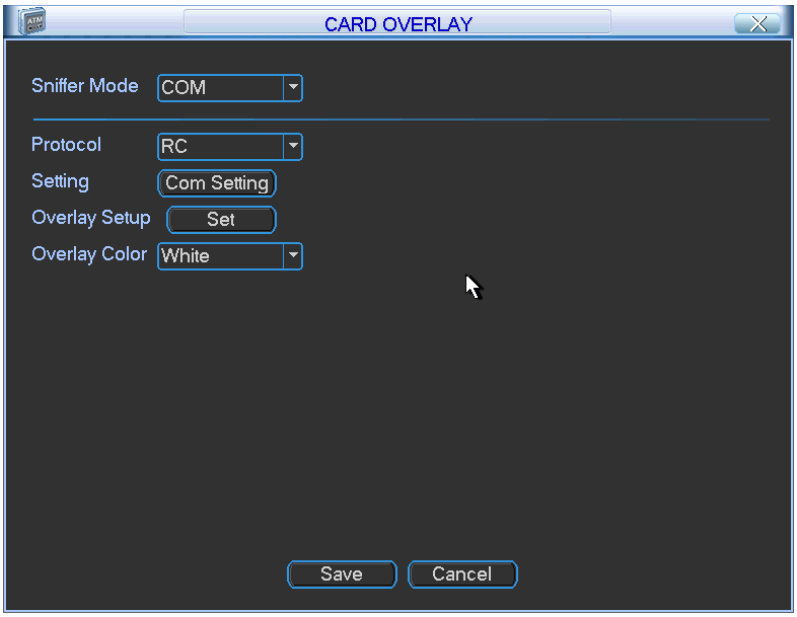


Figure 4-29

Now you can set Sniffer mode as COM and protocol is RC or other protocols. Click COM setting button, you can see COM setup interface. See Figure 4-27.

Now you can set COM information. The COM function is the PTZ matrix and the baud rate, data bit, stop bit shall be the same with the temperature humidity device. Click Save to save you setup.

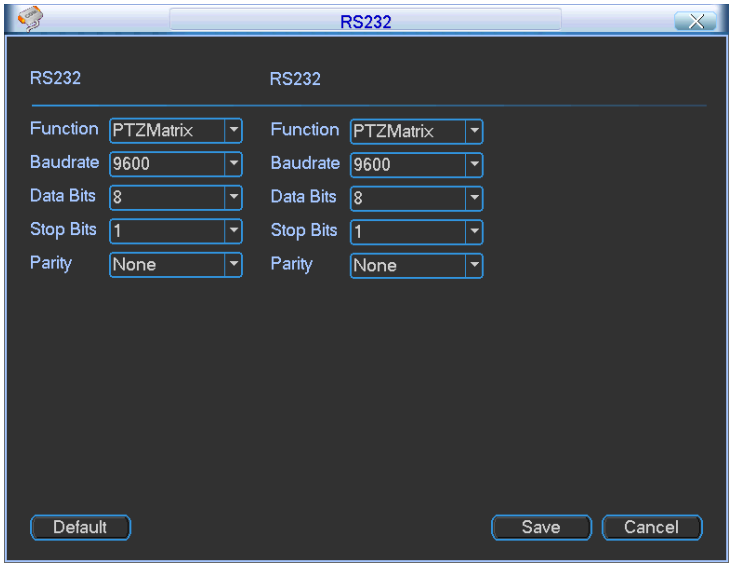


Figure 4-30

In Figure 4-26, select the PIP channel (channel P) to overlay temperature/humidity information. Click overlay setup button, you can see the following interface. See Figure 4-28.
Check the preview or monitor mode and then click Save button.

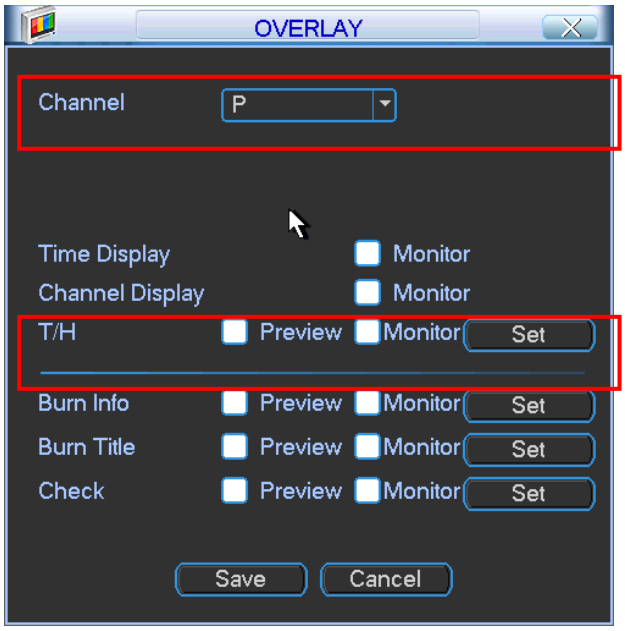


Figure 4-31

Tips

- In Figure 4-28, click Set button, you can set overlay position. You need to select channel P (PIP) to overlay information.
- Preview means you can overlay temperature humidity information on local preview window. Monitor means you can overly temperature humidity information on the record file so that you can view it when playback.

b) Connect temperature humidity device to the NVR

Connect the A2 and Y2 cable at the rear panel of the NVR to the A (or “+”) cable of the temperature humidity device.

Connect the B2 and Z2 cable at the rear panel of the NVR to the B (or “-”) cable of the temperature humidity device.

4.1.11 Backup

NVR support USB device backup and network download. Here we introduce USB backup. You can refer to Chapter 5 Web Operation for network download backup operation.

a) On the preview interface, right click mouse and then click main menu.

b) Click backup button, the interface is shown as below. See Figure 4-32.

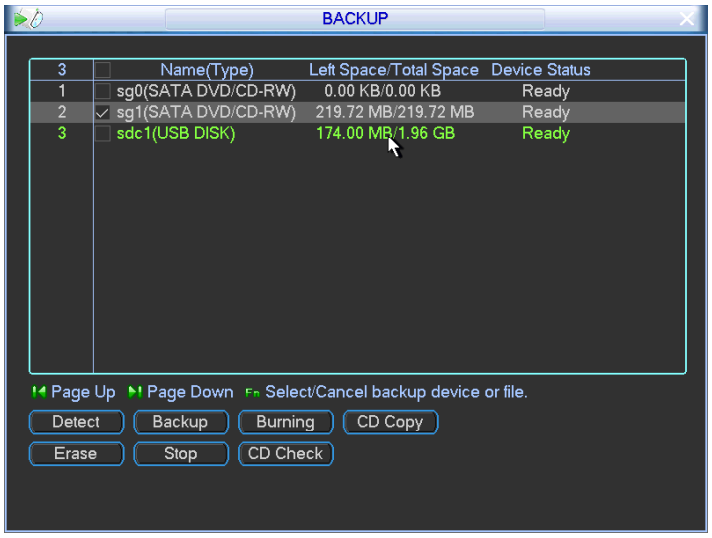


Figure 4-32

c) Select a backup device and then click Backup button. System pops up the following interface. See Figure 4-33.

d) Select backup device and then set channel, file start time and end time. Click add button, system begins search. All matched files are listed below. System automatically calculates the capacity needed and remained.

Important

If you want to backup PIP file, the channel shall be set as P.

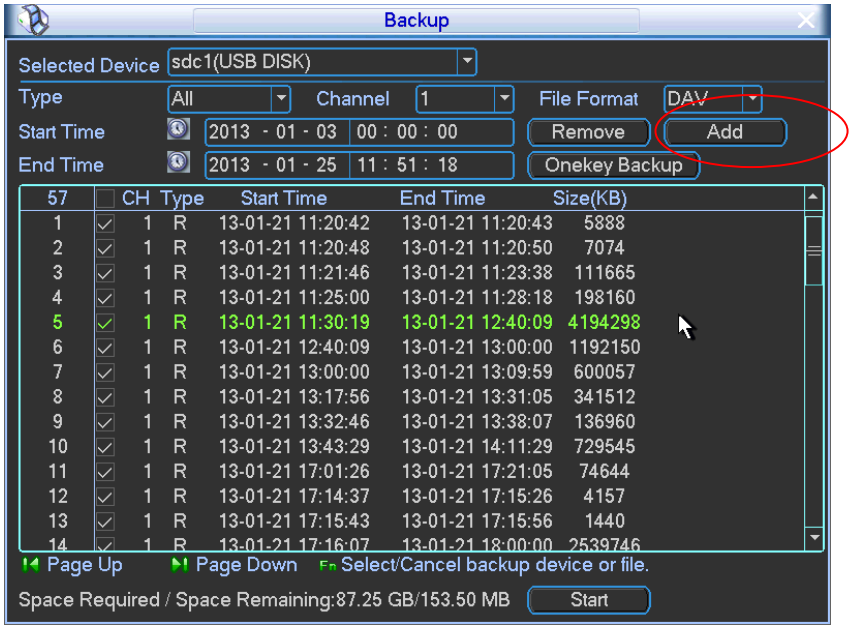


Figure 4-33

e) system only backup files with a √ before channel name. You can use Fn or cancel button to delete √ after file serial number. Click backup button, you can backup selected files. There is a process bar for you reference. When the system completes backup, you can see a dialogue box prompting successful backup.

Note

The file name format usually is: SN_CH+channel number+time Y+M+D+H+M+S. In the file name, the YDM format is the same as you set in general interface. (Main Menu ->Setting ->General).File extension name is .dav.

4.1.12 CD Copy

This function allows you to copy one CD contents to another CD. Please follow the steps listed below.

On the preview interface, right click mouse and then click main menu.

Click backup button, you can go to backup interface.

Click CD copy button at the bottom of the interface. You can go to the following interface. See Figure 4-34. You can see some reference information at the right bottom corner of the interface. You can see the corresponding dialogue box after the copy operation.

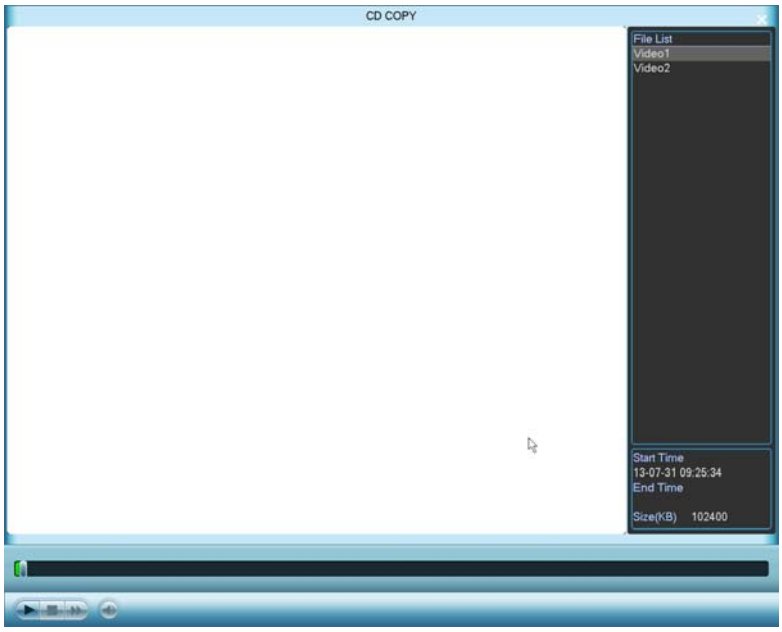


Figure 4-34

Note

- During the backup process, system automatically playback current file.
- Click  at the left bottom corner during the copy process, you can copy video data only.
- During the copy process, you can implement fast forward/backward, pause and resume function.

4.1.13 CD Verification

If you have checked the verification function when you burn CD, you can use it to see the data has been tampered with or not. Please follow the steps listed below. See

On preview window, right click mouse and then select real-time burning. Click the burn setup button, you can go to the following interface. See Figure 4-35.Check the verification box at the bottom of the interface.

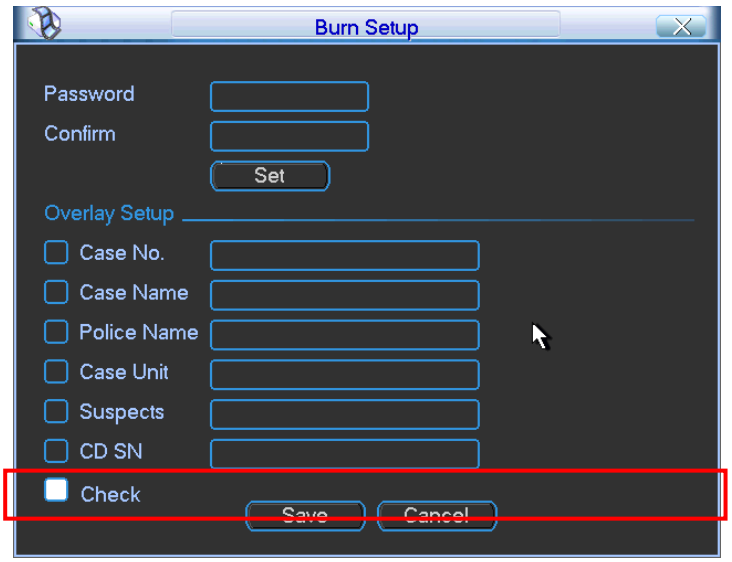


Figure 4-35

After the burning operation, you can check the CD is original or not.

On the preview interface, right click mouse and then select main menu. Click Backup button. Check CD Check button. You can see CD check interface shown as below. See Figure 4-36.

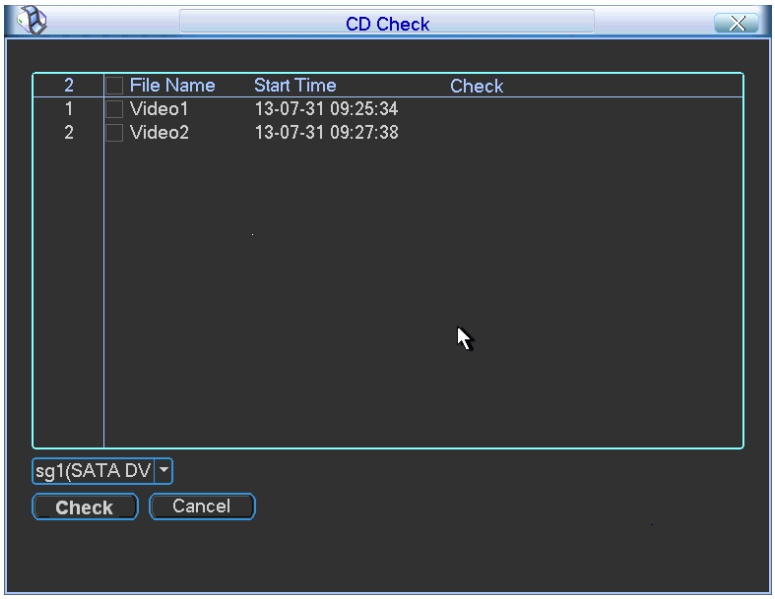


Figure 4-36

Select a CD from the dropdown list at the bottom of the interface and then check the file(s) you want to verify.

Now system automatically begins check operation. You can see the check result on the right column. System displays as success if the file is original. It is shown as failed if the file has no data, or some data is missing or the data has been tampered with. See Figure 4-37.

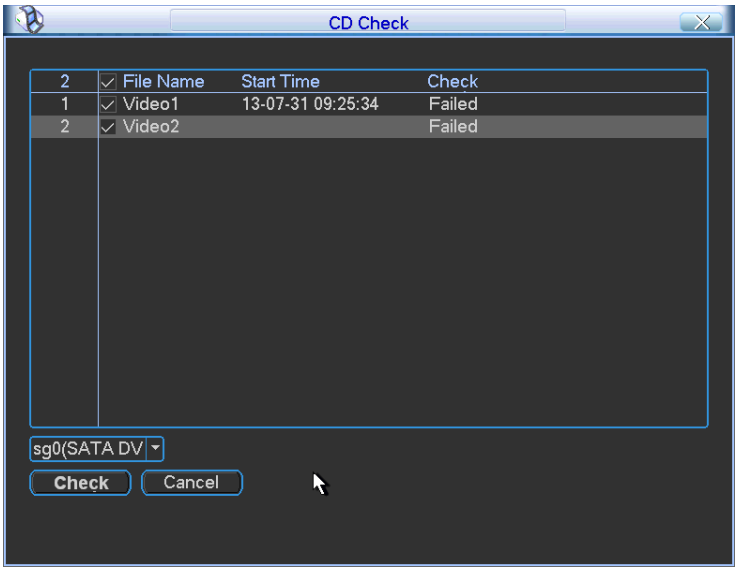


Figure 4-37

4.2 Understanding of Menu Operations and Controls

4.2.1 Menu Tree

This series NVR menu tree is shown as below.

Main Menu	The 1st Menu	Note
Search	-	Record search and playback function.
Info	HDD Info	SATA port status, HDD total space, free space, record start time./end time and etc.
	BPS	User wave to display bit stream of each channel and HDD space it uses within one hour.
	Log	Display system important event log and specify the log you want to record.
	Version	Display system hardware feature, software version, built date and etc.
	Online users	View online user information.
Setting	General	Basic parameters such as system time, record save mode, device No. and etc.
	Encode	Audio/video encode mode, frame rate, quality and etc.
	Schedule	Record setup for general record, motion detect, external alarm.
	RS232	Set RS232 function, baud rate and etc.
	Network	Set parameters such as network address, video data transmission protocol. You can set PPPoE, DDNS and etc function.
	Alarm	Set external alarm output and record activation parameter setup.
	Detect	Set motion detect sensitivity, region and process modes(Alarm output and enable record function), video loss, camera masking, audio and etc.
	Pan/Tilt/Zoom	Set communication protocol, baud rate and etc with the PTZ device.

Main Menu	The 1st Menu	Note
	Display	Menu output, tour monitor parameter setup.
	Default	Select to restore some or all items to factory default setup. Account setup does not support default function.
Advanced	HDD manager	HDD management, clear HDD data and etc. **After you change HDD property, system needs to reboot to activate new setup.**
	Abnormality	Alarm setup for abnormal events such as no HDD, HDD error.
	Alarm output	Generate an alarm output manually.
	Record control	Enable/Disable channel record.
	Account	Maintain user group and user account.
	Auto maintenance	It is to set auto maintain item.
	TV adjust	Set TV output region and color.
	Text overlay	Sniffer, information analysis, text overlay function for special fields.
	Config backup	Import/export device configuration.
Backup	Backup detect	Detect, backup, erase, and stop operation.
Remote device	Remote device	Add/delete remote device.
Shutdown	-	Logout menu user, shutdown system, restart system, switch user and etc.

4.2.2 Main Menu

After you logged in, the system main menu is shown as below. See Figure 4-38.

There are total seven icons: search, Information, setting, backup, remote device, advanced and shutdown. Move the cursor to highlight the icon, then double click mouse to enter the sub-menu.

After completing all the setups please click save button, system goes back to the previous menu.

Please highlight icon  to select the corresponding function.

Figure 4-38

4.2.3 Search & Playback

Click search button in the main menu, search interface is shown as below. See Figure 4-39.

Usually there are three file types:

- N: Regular recording file.
- A: External alarm recording file.
- M: Motion detection recording file.

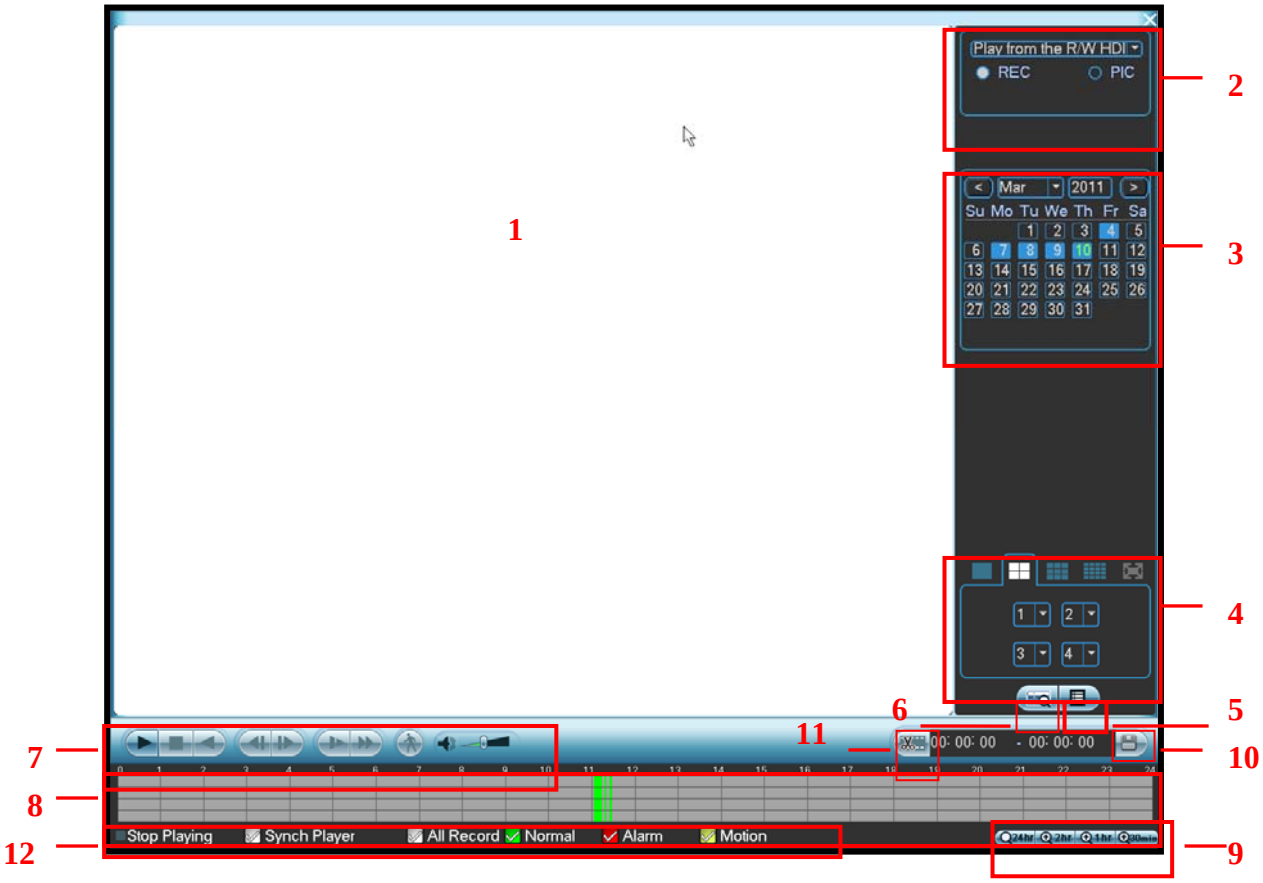
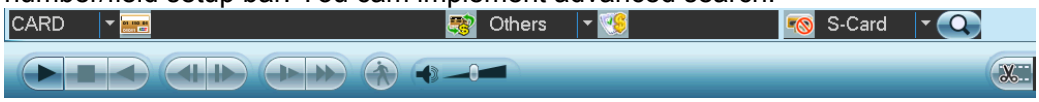
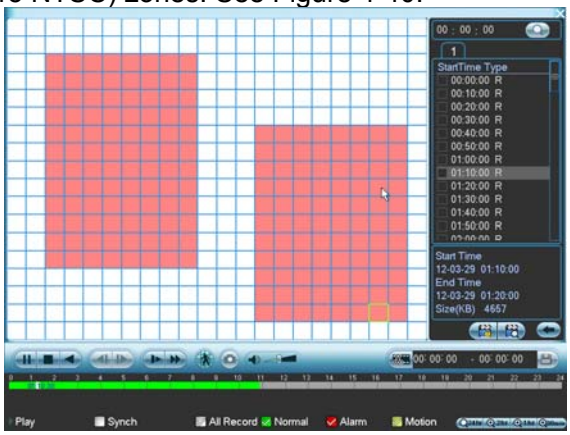


Figure 4-39

Please refer to the following sheet for more information.

<table>
<tr><th>SN</th><th>Name</th><th colspan="2">Function</th></tr>
<tr><td>1</td><td>Display window</td><td colspan="2">●Here is to display the searched picture or file.
●Support 1/4/6-window playback.</td></tr>
<tr><td>2</td><td>Search type</td><td colspan="2">●You can select to play from the read-write HDD, snapshot HDD or CD.</td></tr>
<tr><td>3</td><td>Calendar</td><td colspan="2">●The blue highlighted date means there is picture or file. Otherwise, there is no picture or file.
●In any play mode, click the date you want to see, you can see the corresponding record file trace in the time bar.</td></tr>
<tr><td>4</td><td>Playback mode and channel selection pane.</td><td colspan="2">●Playback mode：1/4-channel.
✧ In 1-window playback mode: you can select 1-4 channels.
✧ In 4-window playback mode: you can select 4 channels.
●The time bar will change once you modify the playback mode or the channel option.</td></tr>
<tr><td>5</td><td>File list switch button</td><td colspan="2">●Double click it, you can view the picture/record file list of current day.
●The file list is to display the first channel of the record file.
●The system can display max 128 files in one time. Use the ▲/▼ or the mouse to view the file. Select one item, and then double click the mouse or click the ENTER button to playback.
●You can input the period in the following interface to begin accurate search.
●File type：R—regular record； A—external alarm record；M—Motion detect record.
  </td></tr>
<tr><td>6</td><td>Card number search</td><td colspan="2">The card number search interface is shown as below. Here you can view card number/field setup bar. You cam implement advanced search.
  </td></tr>
<tr><td rowspan="6">7</td><td rowspan="6">Playback control pane.</td><td>►/ II</td><td>Play/Pause
There are three ways for you to begin playback.
● The play button
● Double click the valid period of the time bar.
● Double click the item in the file list.
In slow play mode, click it to switch between play/pause.</td></tr>
<tr><td>■</td><td>Stop</td></tr>
<tr><td>◄</td><td>Backward play
In normal play mode, left click the button, the file begins backward play. Click it again to pause current play.
In backward play mode, click ►/ II to restore normal play.</td></tr>
<tr><td>|◄/ ►|</td><td>In playback mode, click it to play the next or the previous section. You can click continuously when you are watching the files from the same channel.
In normal play mode, when you pause current play, you can click ◄| and |► to begin frame by frame playback.
In frame by frame playback mode, click ►/ II to restore normal playback.</td></tr>
<tr><td>►·</td><td>Slow play
In playback mode, click it to realize various slow play modes such as slow play 1, slow play 2, and etc.</td></tr>
<tr><td>►►</td><td>Fast forward
In playback mode, click to realize various fast play modes such as fast play 1,fast play 2 and etc.</td></tr>
<tr><td colspan="2">Note: The actual play speed has relationship with the software version.</td></tr>
</table>

		Smart search	
		The volume of the playback	
		Click the snapshot button in the full-screen mode, the system can snapshot 1 picture per second.	
8	Time bar	●It is to display the record type and its period in current search criteria. ●In 4-window playback mode, there are corresponding four time bars. In other playback mode, there is only one time bar. ●Use the mouse to click one point of the color zone in the time bar, system begins playback. ●The time bar is beginning with 0 o'clock when you are setting the configuration. The time bar zooms in the period of the current playback time when you are playing the file. ●The green color stands for the regular record file. The red color stands for the external alarm record file. The yellow stands for the motion detect record file.	
9	Time bar unit	●The option includes: 24H, 12H, 1H and 30M. The smaller the unit, the larger the zoom rate. You can accurately set the time in the time bar to playback the record. ●The time bar is beginning with 0 o'clock when you are setting the configuration. The time bar zooms in the period of the current playback time when you are playing the file.	
10	Backup	Select the file(s) you want to backup from the file list. System max supports files from four channels. Then click the backup button, now you can see the backup menu. Click the start button to begin the backup operation. Check the file again you can cancel current selection. System max supports to display 32 files from one channel.	
11	Clip	●It is to edit the file. ●Please play the file you want to edit and then click this button when you want to edit. You can see the corresponding slide bar in the time bar of the corresponding channel. You can adjust the slide bar or input the accurate time to set the file end time. Click this button again and then save current contents in a new file. .	
12	Record type	In any play mode, the time bar will change once you modify the search type.	
13	Smart search	Click the button, system begins smart search. System supports 396(22*18 PAL) and 330(22*15 NTSC) zones. See Figure 4-40.  Figure 4-40 Click the, you can go to the smart search playback. Click it again, system stops smart search playback. **Please note:** ● When system is playing, you can select a zone in the window to begin motion	

		detect. Click the motion detect button to begin play. ● Once the motion detect play has begun, click button again will terminate current motion detect file play. ● The system will take the whole play zone as the motion detect region by default. ● If you select to play other file in the file list, system switches to motion detect play pf other file. ● During the motion detect play process, you can not implement operations such as change time bar, begin backward playback or frame by frame playback. . **Important** **System does not support motion detect zone setup during the full-screen mode.**
Other Functions		
14	Other channel synchronization switch to play when playback	When playing the file, click the number button, system can switch to the same period of the corresponding channel to play.
15	Digital zoom	When the system is in full-screen playback mode, left click the mouse in the screen. Drag your mouse in the screen to select a section and then left click mouse to realize digital zoom. You can right click mouse to exit.

Note:

All the operations here (such as playback speed, channel, time and progress) have relationship with hardware version. Some series NVRs do not support some functions or playback speeds.

4.2.3.1 CD Playback

This function is for you to verify the real-time burning data. You can check the real-time burning data and backup data.

In Search interface (Figure 4-39), select Play from CD from the dropdown list and then click file list switch button (Button 5 in Figure 4-39). You can see an interface shown as in Figure 4-41. Here you can view file list from the CD. Double click a file name, you can playback a file.

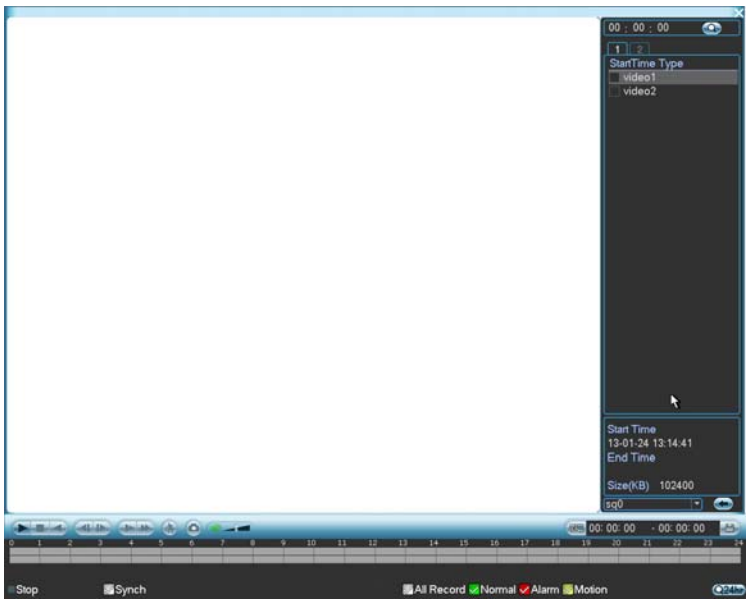


Figure 4-41

Important

Real-time burning and CD playback can not be operated at the same time since these two functions are both for CD-ROM.

4.2.4 Information

Here is for you to view system information. There are total six items: HDD (hard disk information), BPS (data stream statistics), log, version, online user and remote device information. See Figure 4-42.

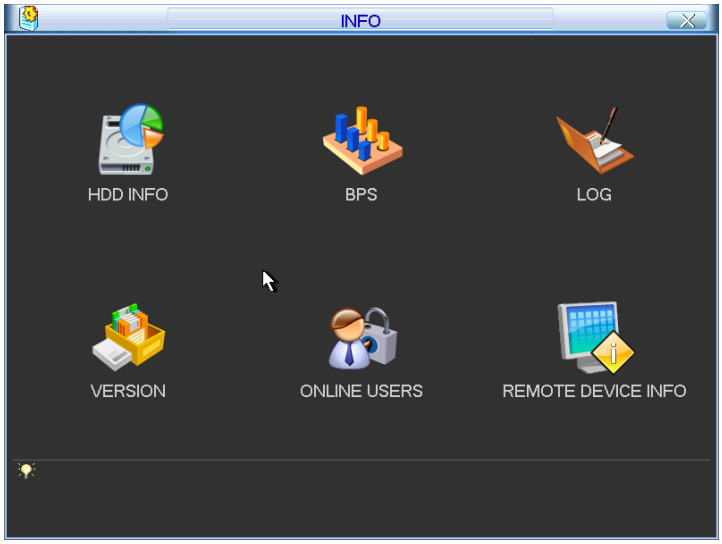


Figure 4-42

4.2.4.1 HDD Information

Here is to list hard disk type, total space, free space, video start time and status. See X391H391H391H See Figure 4-43.○ means current HDD is normal. X means there is error. - means there is no HDD.

If disk is damaged, system shows as “?”. Please remove the broken hard disk before you add a new one.

Once there is a hard disk confliction, please check hard disk time and system time is the same or not. Please go to setting then general to modify system time. At last, reboot the system to solve this problem.

After system booted up, if there is any confliction, system goes to HDD information interface directly. Please note, system does not ask you to deal with it forcedly.

When HDD confliction occurs, you can check system time and HDD time are identical or not. If they are not identical, please go to General (Chapter 4.2.5.1) to adjust system time or go to HDD Management (Chapter 4.2.7.1) to format HDD and then reboot the NVR.

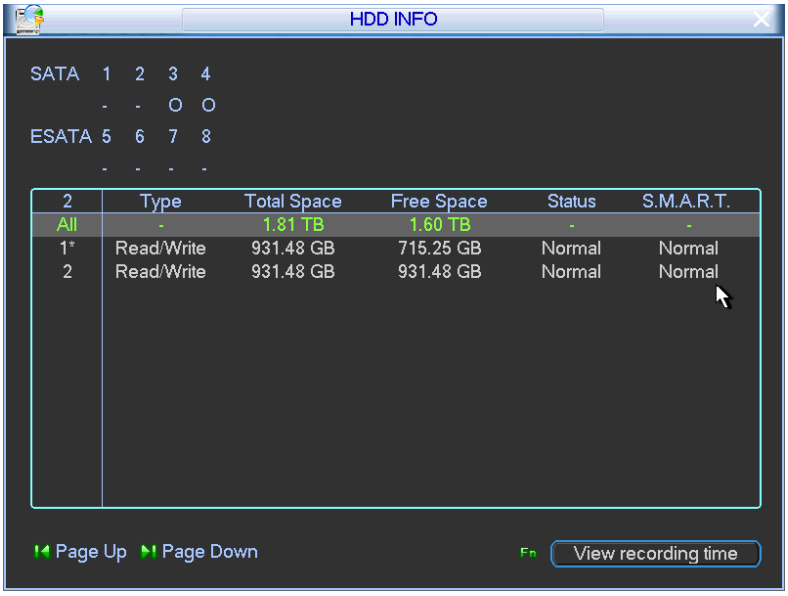


Figure 4-43

Tips:

Please click Fn button or left click mouse to view HDD record time and HDD type and time.

4.2.4.2 BPS

Here is for you to view current video data stream (KB/s) and occupied hard disk storage (MB/h). See Figure 4-44.

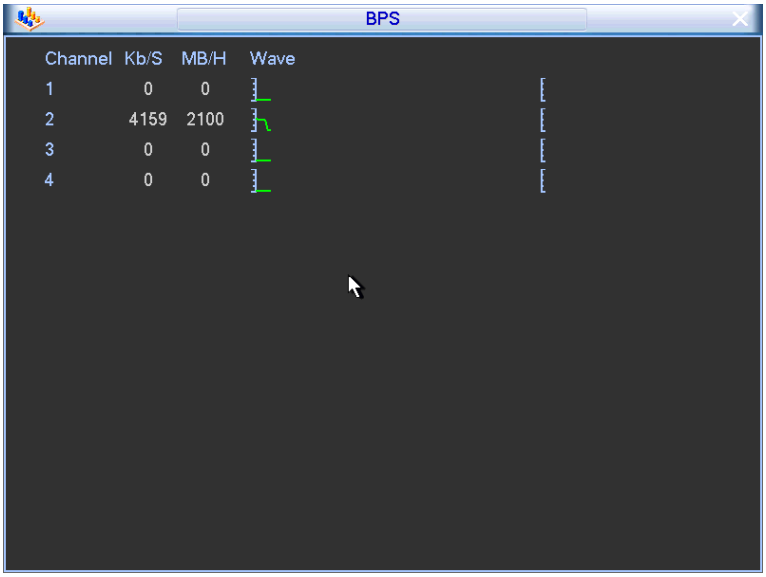


Figure 4-44

4.2.4.3 Log

Here is for you to view system log file. System lists the following information. See Figure 4-45. Log types include system operation, system configuration, data management, alarm event, record operation, log clear, file operation and etc.

- Start time/end time: Pleased select start time and end time, then click search button. You can view the log files in a list. System max displays 100 logs in one page. It can max save

1024 log files. Please use page up/down button on the interface or the front panel to view more.

- Backup: Please select a folder you want to save; you can click the backup button to save the log files. After the backup, you can see there is a folder named Log_time on the backup path. Double click the folder, you can see the log file
- Details: Click the Details button or double click the log item, you can view the detailed information. See Figure 4-46. Here you can use rolling bar to view information, or you can use Page up/Page down to view other log information.

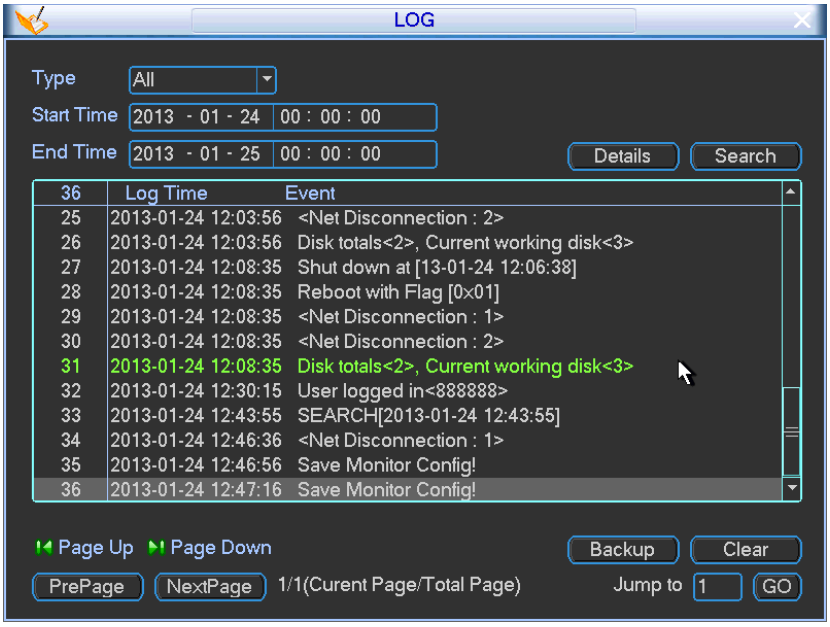


Figure 4-45

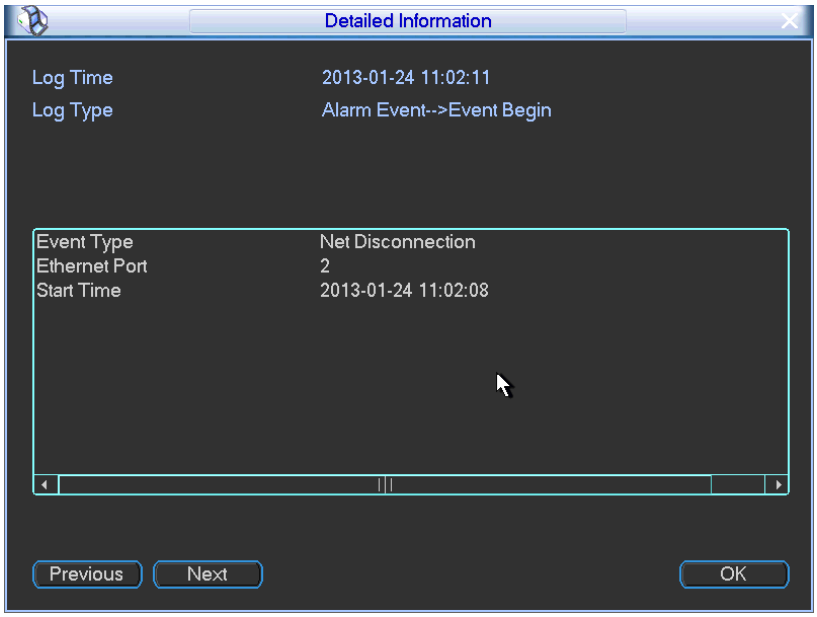


Figure 4-46

4.2.4.4 Version

Here is for you to view hardware features, software version, built date, release SN information and etc. You can also update system here. See Figure 4-47.

- Start: Please insert the USB device that have the update file to the device and then click the Start button to begin the update.

Important

Please make sure the upgrade file name shall be update.bin.

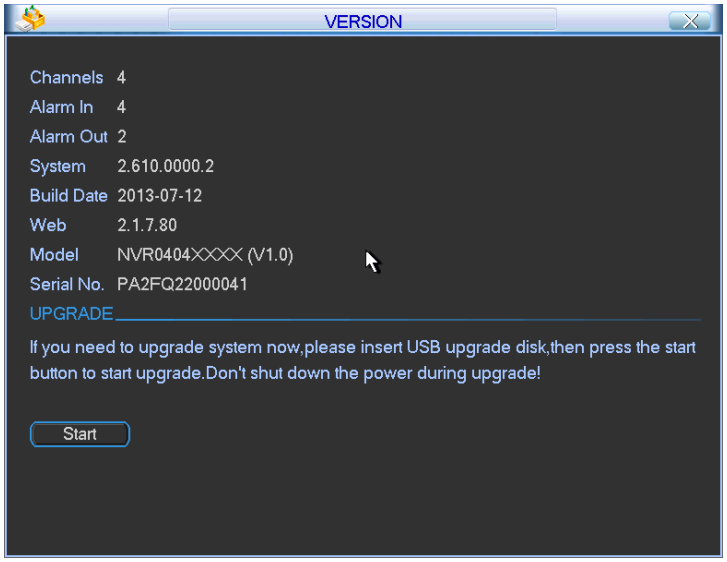


Figure 4-47

4.2.4.5 Online Users

Here is for you manage online users. See Figure 4-48.

You can disconnect one user or block one user if you have proper system right. Max disconnection setup is 65535 seconds.

System refreshes current interface every five seconds to detect there is any newly added or deleted user.

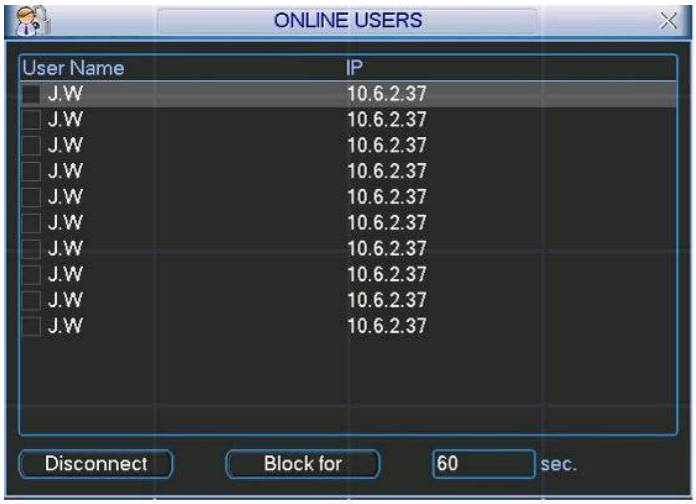


Figure 4-48

4.2.4.6 Network Device Info

In this interface, you can see channel status, connection log, and network test and network load information.

4.2.4.6.1 Channel Status

Here you can view the IPC status of the corresponding channel such as motion detect, video loss, camera masking, alarm and etc. See Figure 4-49.

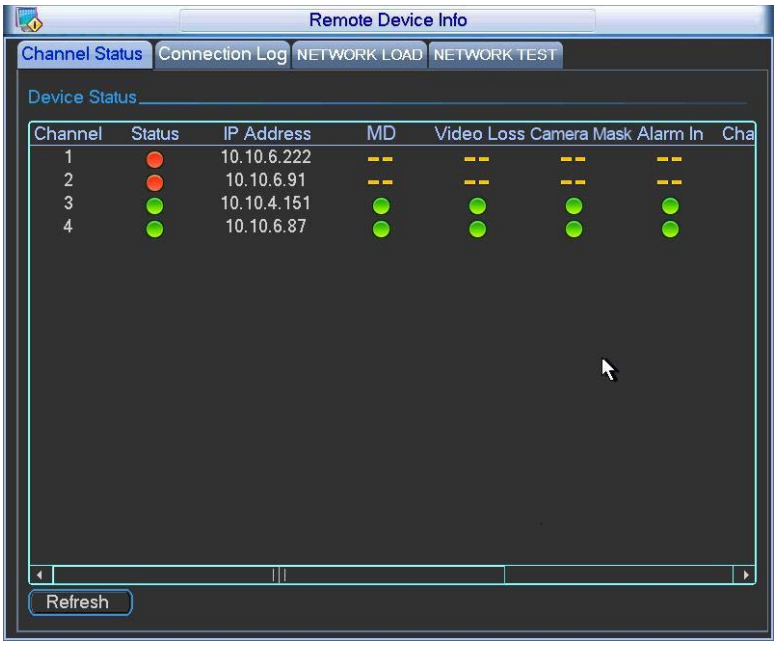


Figure 4-49

4.2.4.6.2 Connection Log

In this interface, you can search the IPC log information of the corresponding channel. It includes IPC online, offline and etc. See Figure 4-50.

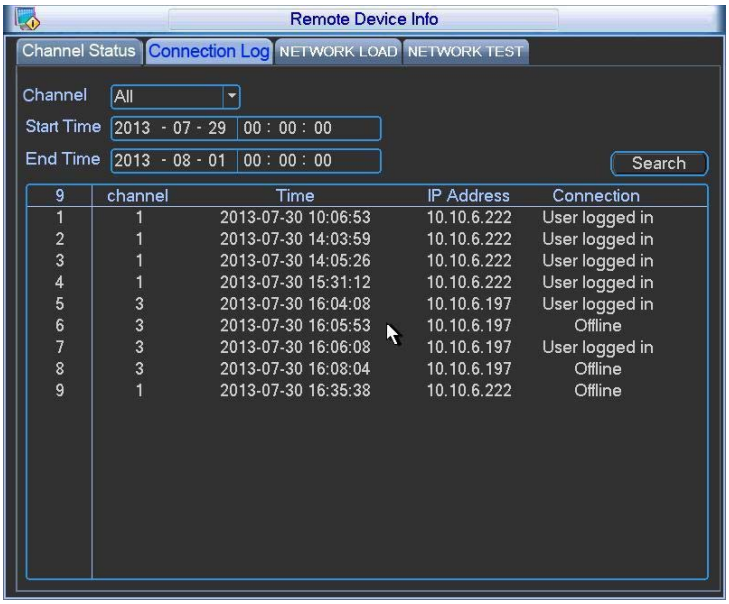


Figure 4-50

4.2.4.6.3 Network Load

Network load is shown as in Figure 4-51. Here you can view the follow statistics of the device network adapter.

Here you can view information of all connected network adapters. The connection status is shown as offline if connection is disconnected. Click one network adapter, you can view the flow statistics such as send rate and receive rate at the top panel

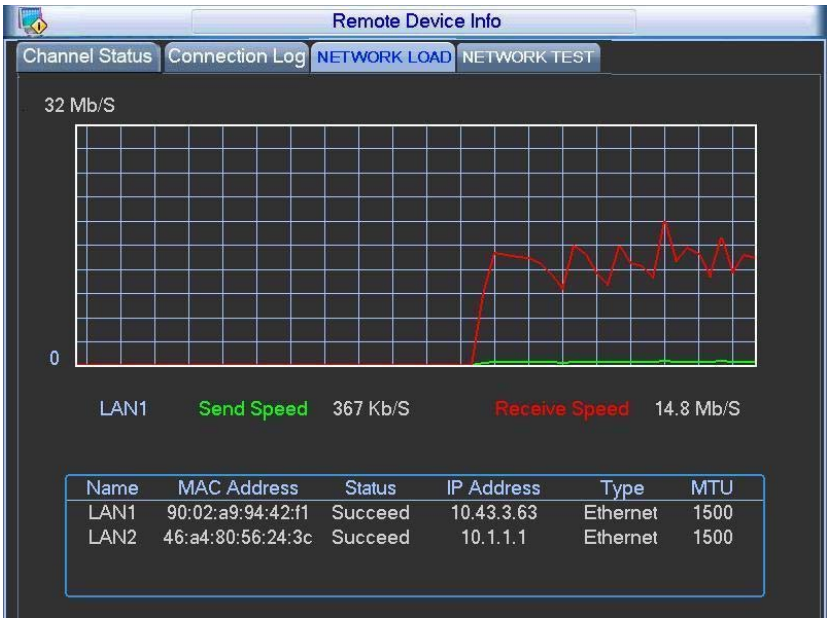


Figure 4-51

4.2.4.6.4 Network Test

Network test interface is shown as in Figure 4-52.

Destination IP: Please input valid IPV4 address and domain name.

Test: Click it to test the connection with the destination IP address. The test results can display average delay and packet loss rate and you can also view the network status as OK, bad, no connection and etc.

Network Sniffer backup: Please insert USB2.0 device and click the Refresh button, you can view the device on the following column. You can use the dropdown list to select peripheral device. Click Browse button to select the snap path. The steps here are same as preview backup operation.

You can view all connected network adapter names (including Ethernet, PPPoE, WIFI, and 3G), you can click the button  on the right panel to begin Sniffer. Click the grey stop button to stop. Please note system can not Sniffer several network adapters at the same time.

After Sniffer began, you can exit to implement corresponding network operation such as login WEB, monitor. Please go back to Sniffer interface to click  stop Sniffer. System can save the packets to the specified path. The file is named after “Network adapter name+time”. You can use software such as Wireshark to open the packets on the PC for the professional engineer to solve complicated problems.

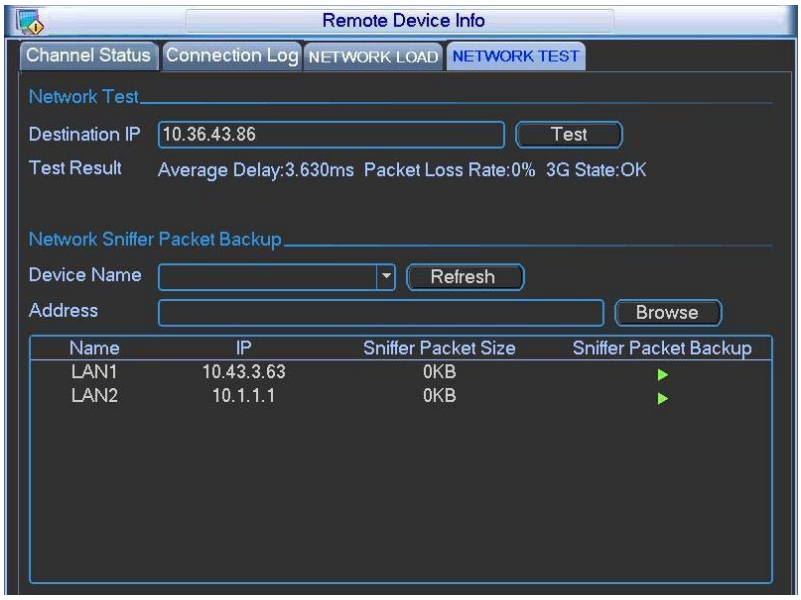


Figure 4-52

4.2.5 Setting

In main menu, highlight setting icon and double click mouse. System setting interface is shown as below. See Figure 4-53.

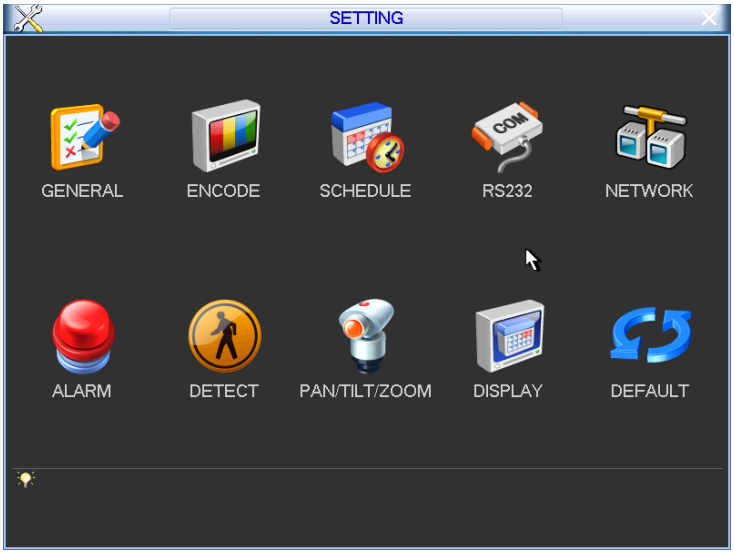


Figure 4-53

4.2.5.1 General

General setting includes the following items. See Figure 5-3.

- System time: Here is for you to set system time
- Date format: There are three types: YYYYY-MM-DD: MM-DD-YYYYY or DD-MM-YYYY.
- Date separator: There are three denotations to separate date: dot, beeline and solidus.
- DST: Here you can set DST time and date. Please enable DST function and then click set button. You can see an interface is shown as in Figure 4-55. Here you can set start time and end time by setting corresponding week setup. In Figure 4-55, enable date button, you can

see an interface is shown as in Figure 5-5. Here you can set start time and end time by setting corresponding date setup.

- Time format: There are two types: 24-hour mode or 12-hour mode.
- Language: System supports various languages: Chinese (simplified), Chinese (Traditional), English, Italian, Japanese, French, Spanish (All languages listed here are optional. Slight difference maybe found in various series.)
- HDD full: Here is for you to select working mode when hard disk is full. There are two options: stop recording or rewrite. If current working HDD is overwritten or the current HDD is full while the next HDD is no empty, then system stops recording, If the current HDD is full and then next HDD is not empty, then system overwrites the previous files.
- Pack duration: Here is for you to specify record duration. The value ranges from 1 to 120 minutes. Default value is 60 minutes.
- Device No: When you are using one remote control (not included in the accessory bag) to control several NVRs, you can give a name to each NVR for your management.
- Video standard: There are two formats: NTSC and PAL.
- Device ID: Please input a corresponding device name here.
- LCD off: System auto turns off screen if it is idle for the specified time. The value ranges from 0 to 120 minutes. The default setup is 10 minutes. Click the ⏻ button at the front panel to turn on the screen.
- Auto logout: Here is for you to set auto logout interval once login user remains inactive for a specified time. Value ranges from 0 to 60 minutes. The default setup is 10 minutes.
- Startup wizard: Once you check the box here, system will go to the startup wizard directly when the system restarts the next time. Otherwise, it will go to the login interface.
- Device ID: Please input a corresponding device name here.
- LCD shutdown: Here you can set the LCD auto shutdown time after system is invalid for the specified time.
- Navigation bar: Check the box here, system displays the navigation bar on the interface.
- IPC Time Sync: You can input an interval here to synchronize the NVR time and IPC time.

Note:

Since system time is very important, do not modify time casually unless there is a must!

Before your time modification, please stop record operation first!

After completing all the setups please click save button, system goes back to the previous menu.

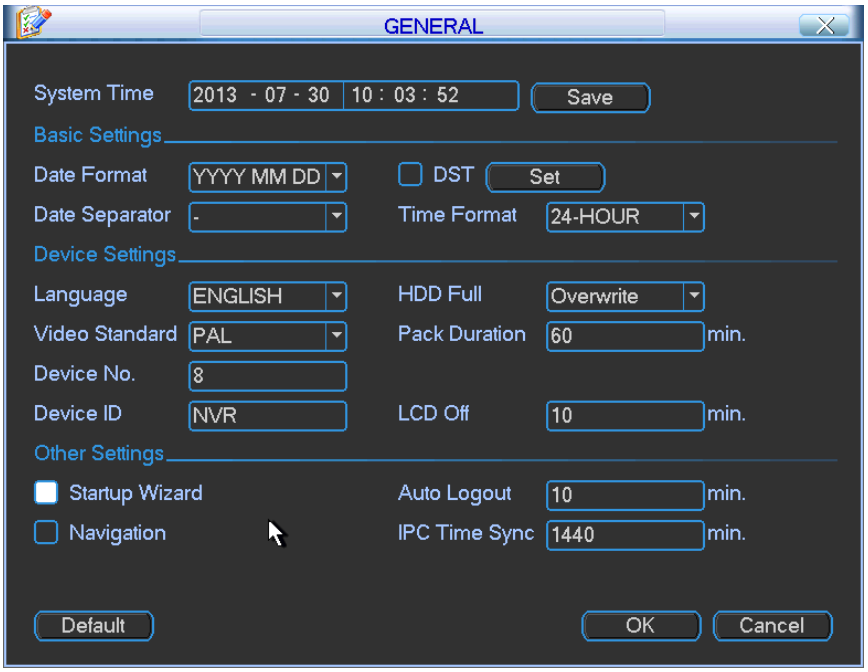


Figure 4-54

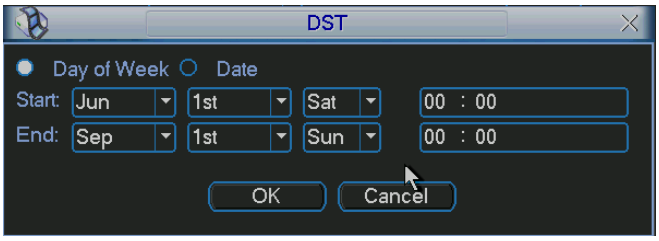


Figure 4-55

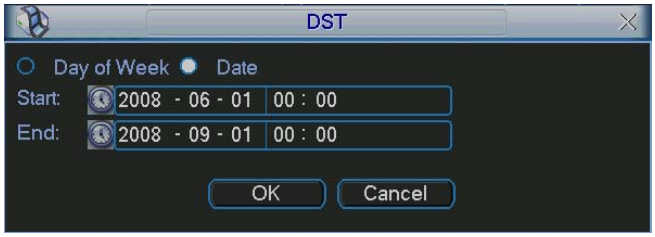


Figure 4-56

4.2.5.2 Encode

Encode setting includes the following items. See Figure 4-57.

Please note some series do not support extra stream.

- Channel: Select the channel you want.
- Type: Please select from the dropdown list. There are three options: regular/motion detect/alarm. You can set the various encode parameters for different record types.
- Compression: System supports H.264.
- Resolution: System supports various resolutions, you can select from the dropdown list. The main stream max supports 1080P and the extra stream max supports D1.
- Frame rate: It ranges from 1f/s to 25f/s in NTSC mode and 1f/s to 30f/s in PAL mode.

- Bit rate type: System supports two types: CBR and VBR. In VBR mode, you can set video quality.
- Quality: There are six levels ranging from 1 to 6. The sixth level has the highest image quality.
- Video/audio: You can enable or disable the video/audio.
- Overlay: Click overlay button, you can see an interface is shown in Figure 4-58.
  - ✧ Cover area (Privacy mask): Here is for you to set privacy mask section. You can drag you mouse to set proper section size. In one channel video, system max supports 4 zones in one channel.
  - ✧ Preview/monitor: privacy mask has two types. Preview and Monitor. Preview means the privacy mask zone can not be viewed by user when system is in preview status. Monitor means the privacy mask zone can not be view by the user when system is in monitor status.
  - ✧ Time display: You can select system displays time or not when you playback. Please click set button and then drag the title to the corresponding position in the screen.
  - ✧ Channel display: You can select system displays channel number or not when you playback. Please click set button and then drag the title to the corresponding position in the screen.
- Copy：After you complete the setup, you can click Copy button to copy current setup to other channel(s). You can see an interface is shown as in Figure 4-59. You can see current channel number is grey. Please check the number to select the channel or you can check the box ALL. Please click the OK button in Figure 4-59 and Figure 4-57 respectively to complete the setup.

Please highlight icon  to select the corresponding function.

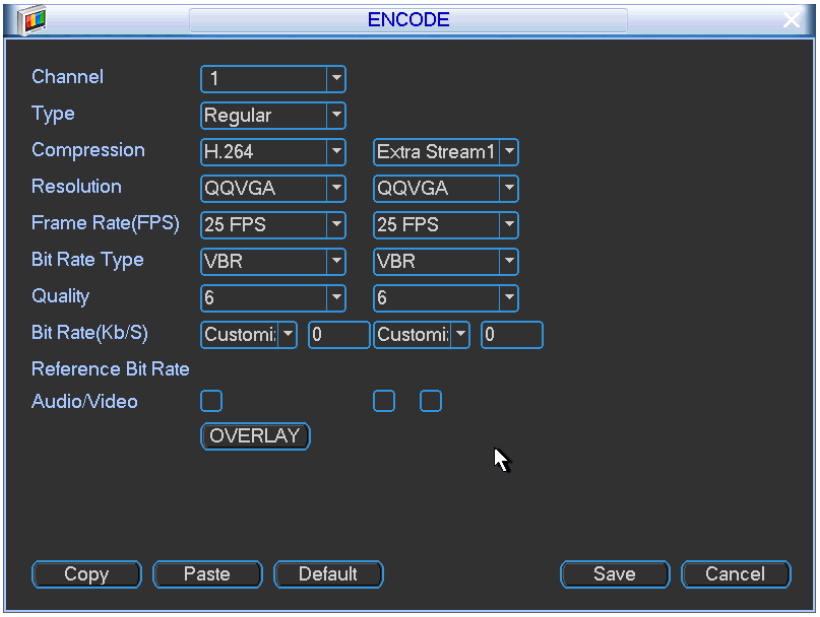


Figure 4-57

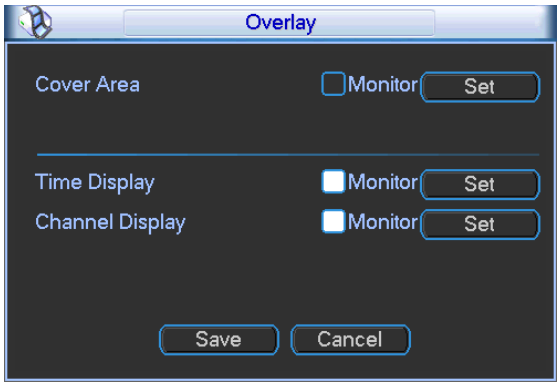


Figure 4-58

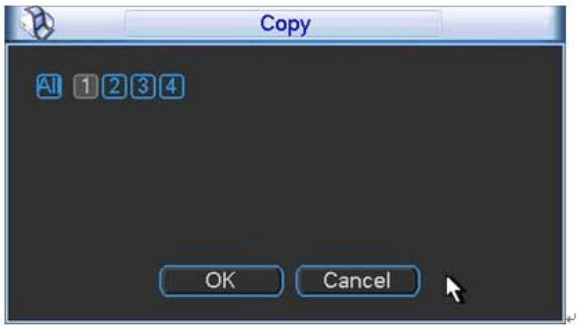


Figure 4-59

4.2.5.3 Schedule

In the main menu, from setting to schedule, you can go to schedule menu. See Figure 4-60.

- Channel: Please select the channel number first. You can select “all” if you want to set for the whole channels.
- Week day: There are eight options: ranges from Saturday to Sunday and all.
- Pre-record: System can pre-record the video before the event occurs into the file. The value ranges from 1 to 30 seconds depending on the bit stream.
- Redundancy: System supports redundancy backup function. It allows you backup recorded file in two disks. You can highlight Redundancy button to activate this function. Please note, before enable this function, please set at least one HDD as redundant. (Main menu->Advanced->HDD Management) Please refer to chapter4.2.5.3.2 for detailed information.
- Record types: There are four types: regular, motion detection (MD), Alarm, MD & alarm.

Please highlight icon to select the corresponding function. After completing all the setups please click save button, system goes back to the previous menu.

At the bottom of the menu, there are color bars for your reference. Green color stands for regular recording, yellow color stands for motion detection and red color stands for alarm recording. The white means the MD and alarm record is valid. Once you have set to record when the MD and alarm occurs, system will not record neither motion detect occurs nor the alarm occurs.

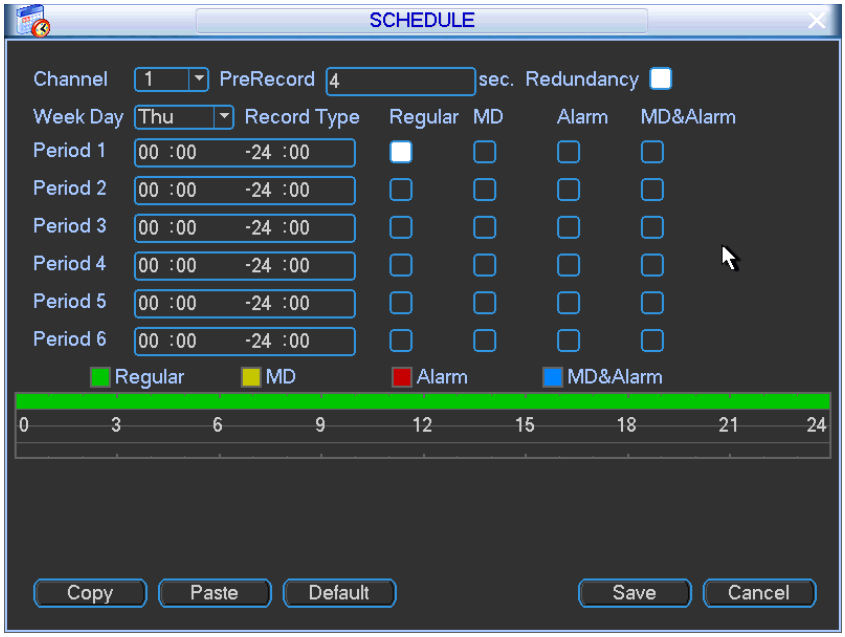


Figure 4-60

4.2.5.3.1 Quick Setup

This function allows you to copy one channel setup to another. After setting in channel 1, you can click paste button and turn to channel 2 and then click copy button. You can finish setting for one channel and then click save button or you can finish all setup and then click save button to memorize all the settings.

4.2.5.3.2 Redundancy

Redundancy function allows you to memorize record file in several disks. When there is file damage occurred in one disk, there is a spare one in the other disk. You can use this function to maintain data reliability and safety.

In the main menu, from Setting to Schedule, you can highlight redundancy button to enable this function. See Figure 4-60.

In the main menu, from Advanced to HDD management, you can set one or more disk(s) as redundant. You can select from the dropdown list. See Figure 4-61. System auto overwrites old files once hard disk is full.

Please note only read/write disk or read-only disk can backup file and support file search function, so you need to set at least one read-write disk otherwise you can not record video.

Note

About redundancy setup:

- If current channel is not recording, current setup gets activated when the channel begin recording the next time.
- If current channel is recording now, current setup will get activated right away, the current file will be packet and form a file, then system begins recording as you have just set.

After all the setups please click save button, system goes back to the previous menu.

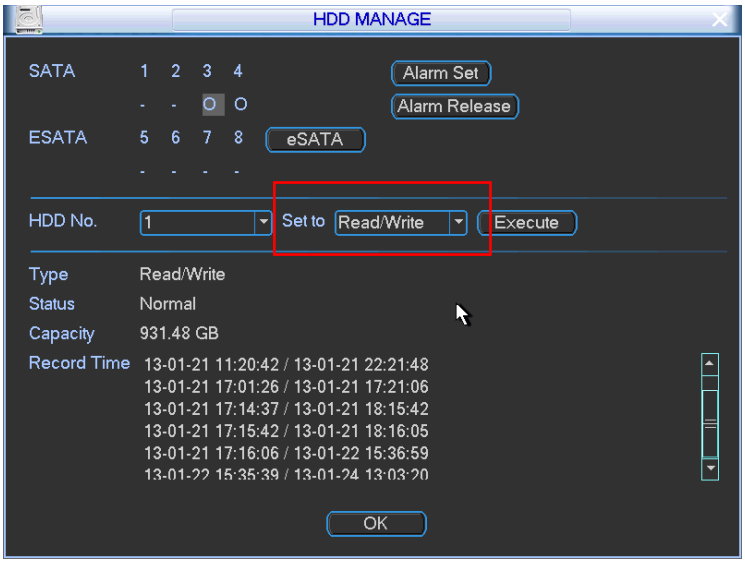


Figure 4-61

Playback or search in the redundant disk.

There are two ways for you to playback or search in the redundant disk.

- Set redundant disk(s) as read-only disk or read-write disk (Main menu->Advanced->HDD management). See Figure 4-61. System needs to reboot to get setup activated. Now you can search or playback file in redundant disk.
- Dismantle the disk and play it in another PC.

4.2.5.4 RS232

RS232 interface is shown as below. There are five items. See Figure 4-62.

- Function: There are various devices for you to select. Console is for you to use the COM or mini-end software to upgrade or debug the program. The control keyboard is for you to control the device via the special keyboard. Transparent COM (adapter) is to connect to the PC to transfer data directly. Protocol COM is for card overlay function. Network keyboard is for you to use the special keyboard to control the device. PTZ matrix is to connect to the peripheral matrix control.
- Baud rate: You can select proper baud rate.
- Data bit: You can select proper data bit. The value ranges from 5 to 8.
- Stop bit: There are three values: 1/1.5/2.
- Parity: there are five choices: none/odd/even/space/mark.

System default setup is:

- Function: Console
- Baud rate:115200
- Data bit:8
- Stop bit:1
- Parity: None

After completing all the setups please click save button, system goes back to the previous menu.

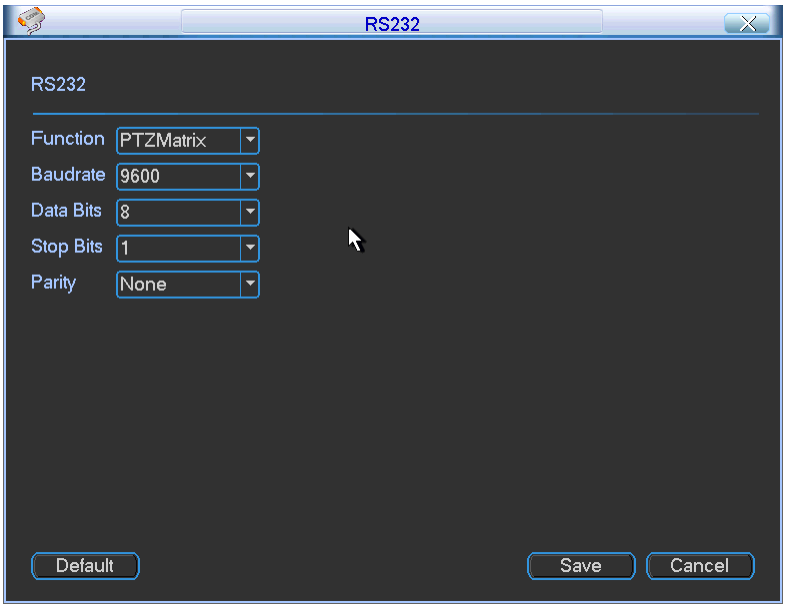


Figure 4-62

4.2.5.5 Network

Here is for you to input network information.

The dual network adapters' interface is shown as in Figure 4-63.

- IP address: Here you can input IP address.
- Network Mode: It includes multiple access, fault tolerance, and load balancing.
  - ✧ Multiple-address mode: eth0 and eth1 operate separately. You can use the services such as HTTP, RTP service via etho0 or the eth1 usually you need to set one default card(default setup is etho) to request the auto network service form the device-end such as DHCP, email ,FTP and etc. In multiple-address mode, system network status is shown as offline once one card is offline.
  - ✧ Network fault-tolerance: In this mode, device uses bond0 to communicate with the external devices. You can focus on one host IP address. At the same time, you need to set one master card. Usually there is only one running card (master card).System can enable alternate card when the master card is malfunction. The system is shown as offline once these two cards are both offline. Please note these two cards shall be in the same LAN.
  - ✧ Load balance: In this mode, device uses bond0 to communicate with the external device. The eth0 and eth1 are both working now and bearing the network load. Their network load are general the same. The system is shown as offline once these two cards are both offline. Please note these two cards shall be in the same LAN.
- Default NIC: Please select eth0/eth1/bond0(optional) after enable multiple access function
- Main Network Card: Please select eth0/eth1 (optional).after enable multiple access function.
- DHCP: It is to auto search IP. When enable DHCP function, you can not modify IP/Subnet mask /Gateway. These values are from DHCP function. If you have not enabled DHCP function, IP/Subnet mask/Gateway display as zero. You need to disable DHCP function to

view current IP information. Besides, when PPPoE is operating, you can not modify IP/Subnet mask /Gateway.

- TCP port: Default value is 37777. You can change if necessary.
- UDP port: Default value is 37778. You can change if necessary.
- HTTP port: Default value is 80.
- RTSP port: Default value is 554. For the main stream, the RTSP query format is rtsp://username:password@ip:port/cam/realmonitor?channel=1&subtype=0. For the extra stream, the RTSP query format is rtsp://username:password@ip:port/cam/realmonitor?channel=1&subtype=1. Here you need to input user name, password, device IP and port (default setup is 554. you do not need to input here if it is the default value.). For standard RTSP protocol, when the encode mode is MJPEG, the max resolution is 2040*2040.
- Max connection: system support maximal 20 users. 0 means there is no connection limit.
- Preferred DNS server: DNS server IP address.
- Alternate DNS server: DNS server alternate address.
- Transfer mode: Here you can select the priority between fluency/video qualities.
- LAN download: System can process the downloaded data first if you enable this function. The download speed is 1.5X or 2.0X of the normal speed.

After completing all the setups please click save button, system goes back to the previous menu.

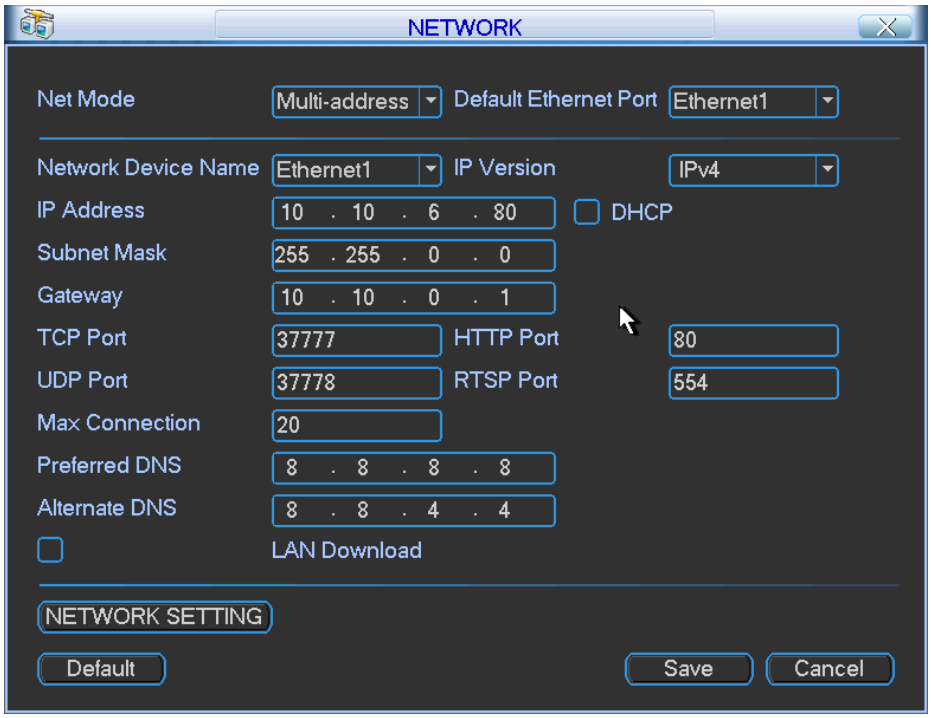


Figure 4-63

4.2.5.5.1 Network Setting

Network setting interface is shown as in Figure 4-64. Please check the box to enable corresponding function and then double click current item to go to setup interface.

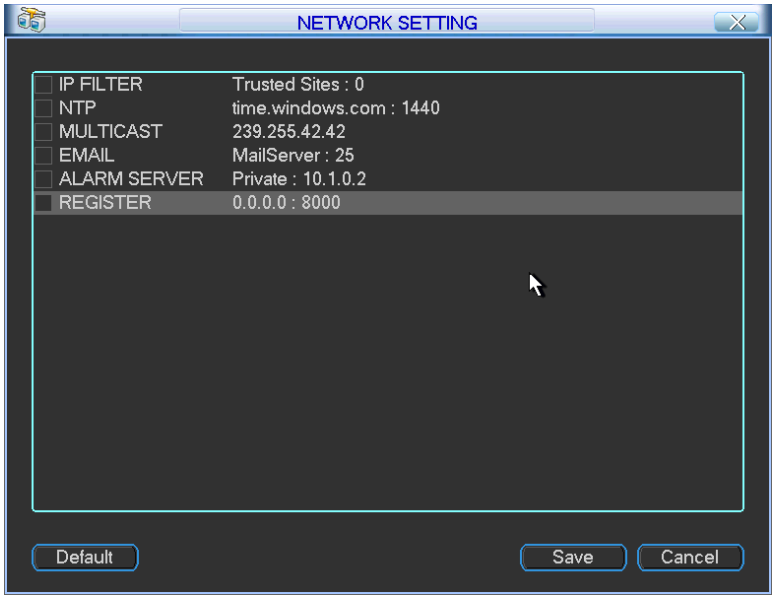


Figure 4-64

4.2.5.5.2 IP Filter

IP filter interface is shown as in Figure 4-65. You can add IP in the following list. The list supports max 64 IP addresses.

Please note after you enabled this function, only the IP listed below can access current NVR. If you disable this function, all IP addresses can access current NVR.

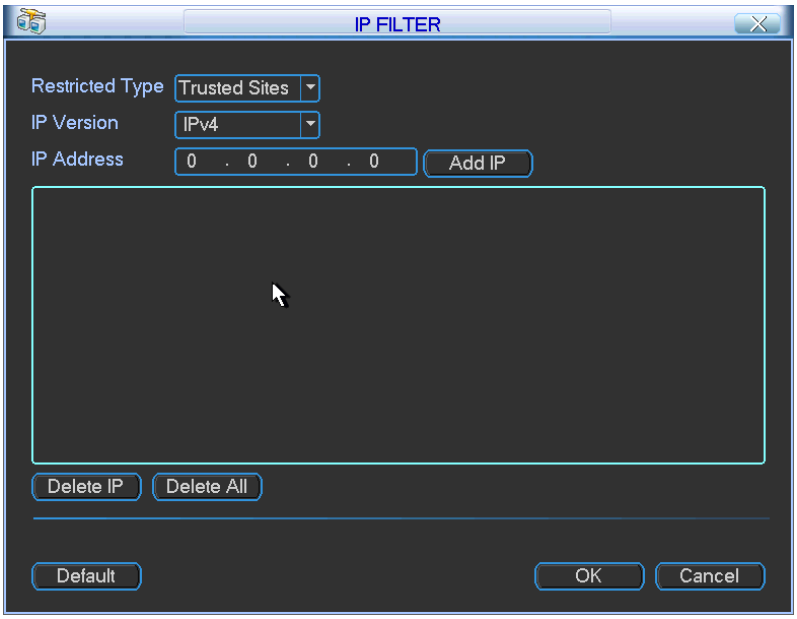


Figure 4-65

4.2.5.5.3 NTP Setup

You need to install SNTP server (Such as Absolute Time Server) in your PC first. In Windows XP OS, you can use command “net start w32time” to boot up NTP service.

NTP setup interface is shown as in Figure 4-66.

- Host IP: Input your PC address.
- Port: This series NVR supports TCP transmission only. Port default value is 123.

- Update interval: minimum value is 1. Max value is 65535. (Unit: minute)
- Time zone: select your corresponding time zone here.
- Manual update: It allows you to synchronize the time with the server manually.

Here is a sheet for your time zone setup.

City /Region Name	Time Zone
London	GMT+0
Berlin	GMT+1
Cairo	GMT+2
Moscow	GMT+3
New Deli	GMT+5
Bangkok	GMT+7
Beijing (Hong Kong)	GMT+8
Tokyo	GMT+9
Sydney	GMT+10
Hawaii	GMT-10
Alaska	GMT-9
Pacific Time(P.T)	GMT-8
American Mountain Time(M.T)	GMT-7
American Central Time(C.T)	GMT-6
American Eastern Time(E.T)	GMT-5
Atlantic Time	GMT-4
Brazil	GMT-3
Middle Atlantic Time	GMT-2

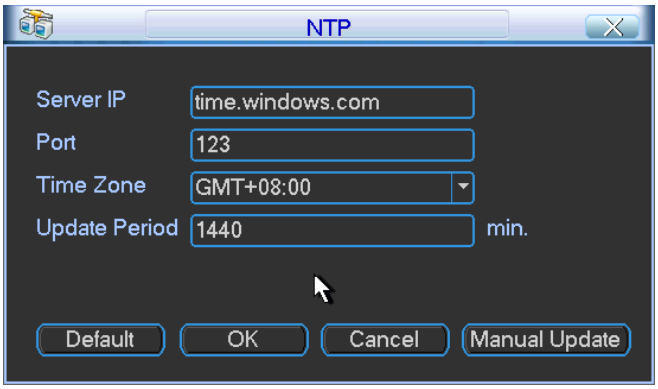


Figure 4-66

4.2.5.5.4 Multicast Setup

Multicast setup interface is shown as in Figure 4-67.

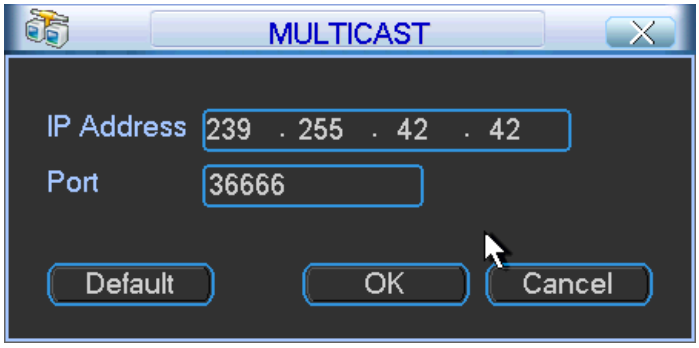


Figure 4-67

Here you can set a multiple cast group. Please refer to the following sheet for detailed information.

- IP multiple cast group address

-224.0.0.0-239.255.255.255

-“D” address space

  - The higher four-bit of the first byte=”1110”

- Reserved local multiple cast group address

-224.0.0.0-224.0.0.255

-TTL=1 When sending out telegraph

-For example

224.0.0.1 All systems in the sub-net

224.0.0.2 All routers in the sub-net

224.0.0.4 DVMRP router

224.0.0.5 OSPF router

224.0.0.13 PIMv2 router

- Administrative scoped addressees

-239.0.0.0-239.255.255.255

-Private address space

  - Like the single broadcast address of RFC1918
  - Can not be used in Internet transmission
  - Used for multiple cast broadcast in limited space.

Except the above mentioned addresses of special meaning, you can use other addresses. For example:

Multiple cast IP: 235.8.8.36

Multiple cast PORT: 3666.

After you logged in the Web, the Web can automatically get multiple cast address and add it to the multiple cast groups. You can enable real-time monitor function to view the view.

Please note multiple cast function applies to special series only.

4.2.5.5.5 Email

The email interface is shown as below. See Figure 4-68.

- SMTP server: Please input your email SMTP server IP here.
- Port: Please input corresponding SMTP port value here.
- Anonymous: Check the box here to enable anonymous function. In this mode, you do not need to input user name and password to login the SMTP server.
- User name: Please input the user name to login the sender email box. You do not need to set user name if you have enabled anonymous function.
- Password: Please input the corresponding password here. You do not need to set password if you have enabled anonymous function.
- Sender: Please input sender email box here.
- Title: Please input email subject here. System support English character and Arabic number. Max 32-digit.
- Attachment: Check the box here to enable attachment function.
- Receiver: Please input receiver email address here. System max supports 3 email boxes.
- Encrypt type: The option includes: NONE, SSL, TLS.
- Interval: The send interval ranges from 0 to 3600 seconds. 0 means there is no interval.

- Health email enable: Please check the box here to enable this function. This function allows the system to send out the test email to check the connection is OK or not.
- Interval: Please check the above box to enable this function and then set the corresponding interval. System can send out the email regularly as you set here. Click the Test button, you can see the corresponding dialogue box to see the email connection is OK or not. See Figure 4-69.

Please note system will not send out the email immediately when the alarm occurs. When the alarm, motion detection or the abnormity event activates the email, system sends out the email according to the interval you specified here. This function is very useful when there are too many emails activated by the abnormity events, which may result in heavy load for the email server.

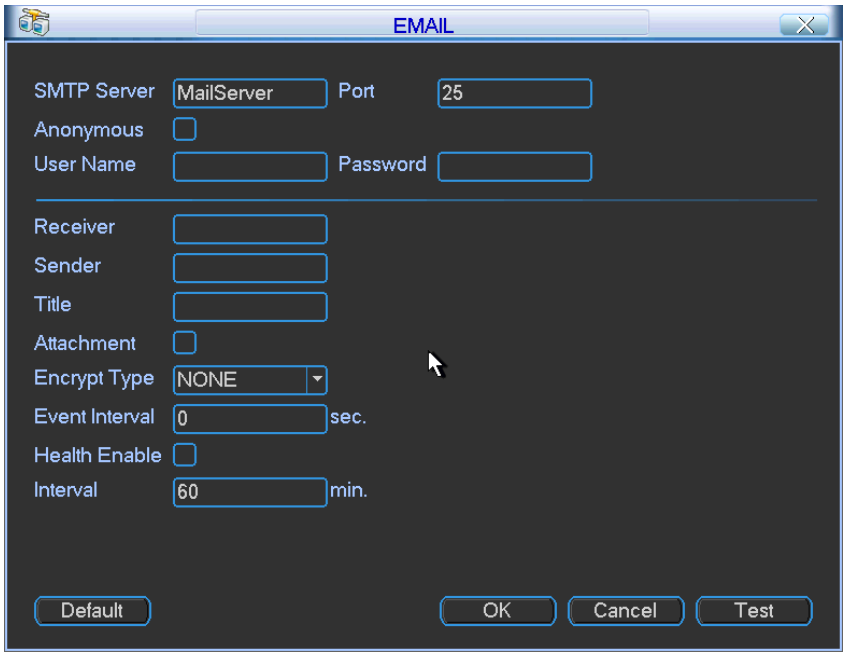


Figure 4-68

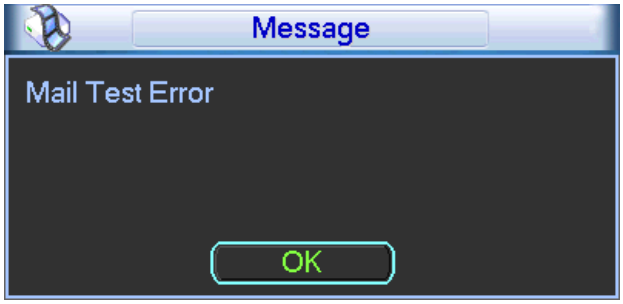


Figure 4-69

4.2.5.5.6 Alarm Centre

It is to set alarm protocol, interval and etc. See Figure 4-70.

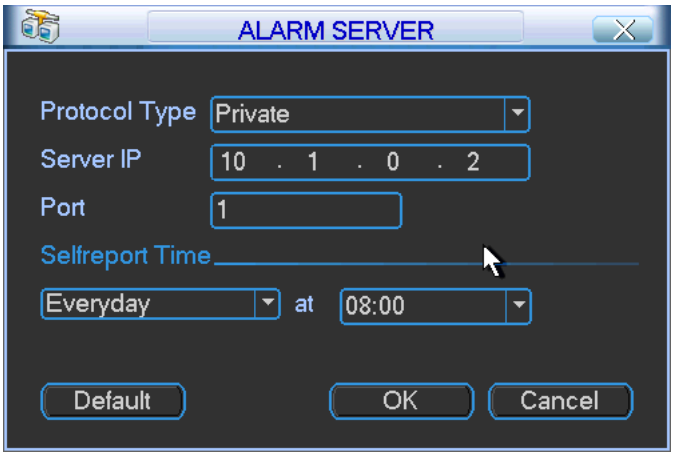


Figure 4-70

4.2.5.5.7 Auto Register

The auto register function allows you to access a device in the LAN. You need to input server IP, port so that the device can register to the server. See Figure 4-71.

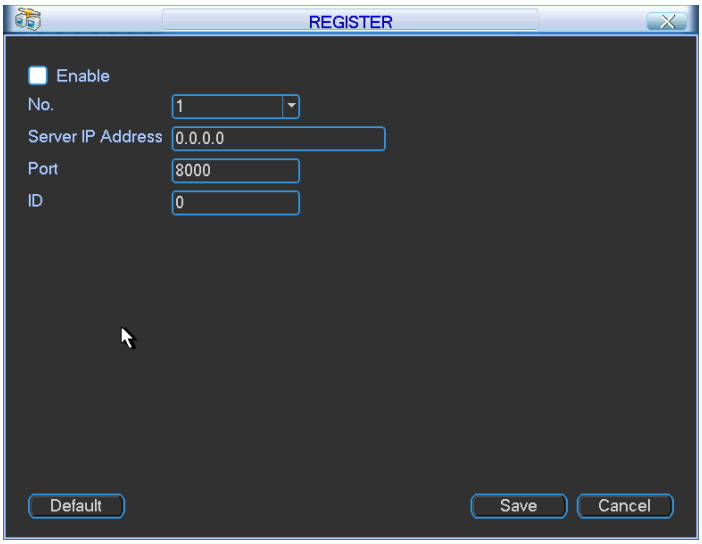


Figure 4-71

4.2.5.6 Alarm

Before operation, please make sure you have properly connected alarm devices such as buzzer.

In the main menu, from Setting to Alarm, you can see alarm setup interface. See Figure 4-72.

- Alarm in: Here is for you to select alarm channel number.
- Event type: There are two types. One is local input and the other is network input.
- Type: normal open or normal close.
- Period: Click set button, you can see an interface is shown as in Figure 4-74. Here you can set for business day and non-business day. In Figure 4-74, click set button, you can see an interface is shown as in Figure 4-75. Here you can set your own setup for business day and non-business day.
- Alarm output: Here you can set alarm output port (Multiple choices). System can activate corresponding alarm output device(s) when an alarm occurs.

- Latch: When the anti-dither time ended, the channel alarm you select in the alarm output may last the specified period. The value ranges from 1 to 300 seconds. This function is not for other alarm activation operations. The latch is still valid even you disable the alarm event function directly. .
- Show message: System can pop up a message to alarm you in the local host screen if you enabled this function.
- Alarm upload: System can upload the alarm signal to the network (including alarm centre) if you enabled current function.
- Send email: System can send out email to alert you when alarm occurs.
- Record channel: you can select proper channel to record alarm video (Multiple choices).
  - ✧ You need to set alarm record mode as Schedule in Record interface (Main Menu->Advanced->Record). Please note the manual record has the highest priority. System record all the time no matter there is an alarm or not if you select Manual mode.
  - ✧ Now you can go to the Schedule interface (Main Menu->Setting->Schedule) to set the record type, corresponding channel number, week and date. You can select the record type:Regular/MD/Alarm/MD&Alarm. Please note, you can not select the MD&Alarm and MD(or Alarm) at the same time.
  - ✧ Now you can go to the Encode interface to select the alarm record and set the encode parameter (Main Menu->Setting->Encode).
  - ✧ Finally, you can set the alarm input as the local alarm and then select the record channel. The select channel begins alarm record when an alarm occurred. Please note system begins the alarm record instead of the MD record if the local alarm and MD event occurred at the same time.
- PTZ activation: When an alarm occurred, system can activate the PTZ operation. The PTZ activation lasts an anti-dither period.
  - ✧ In the Pan/Tilt/Zoom interface (Main menu->Setting-> Pan/Tilt/Zoom), please set video channel, speed dome protocol and etc.
  - ✧ Select the channel of current speed dome as current monitor video and the right click mouse to select Pan/Tilt/Zoom item. Now you can set preset, tour pattern.
  - ✧ In Figure 4-72, click “select” button, you can see an interface is shown as in Figure 4-73. Here you can set the activation operation such as preset tour, pattern and enable.
- Anti-dither: Here you can set anti-dither time. The value ranges from 5 to 600s. The anti-dither time refers to the alarm signal lasts time. It can be seem as the alarm signal activation stays such as the buzzer, tour, PTZ activation, snapshot, channel record. The stay time here does not include the latch time. During the alarm process, the alarm signal can begin an anti-dither time if system detects the local alarm again. The screen prompt, alarm upload, email and etc will not be activated. For example, if you set the anti-dither time as 10 second, you can see the each activation may last 10s if the local alarm is activated. During the process, if system detects another local alarm signal at the fifth second, the buzzer, tour, PTZ activation, snapshot, record channel will begin another 10s while the screen prompt, alarm upload, email will not be activated again. After 10s, if system detects another alarm signal, it can generate an alarm since the anti-dither time is out.
- Record Delay: System can delay the record for specified time after alarm ended. The value ranges from 10s to 300s.
- Tour: Here you can enable tour function when alarm occurs. System supports one-window tour. Please go to chapter 5.3.9 Display for tour interval setup.

- Buzzer: Highlight the icon to enable this function. The buzzer beeps when alarm occurs.

Note: The network alarm means the alarm signal from the TCP/IP. You can enable the network alarm function via the net SDK. The network alarm does not have the device type; anti-dither and alarm upload function. The rest items are the same.

Please highlight icon to select the corresponding function. After setting all the setups please click save button, system goes back to the previous menu.

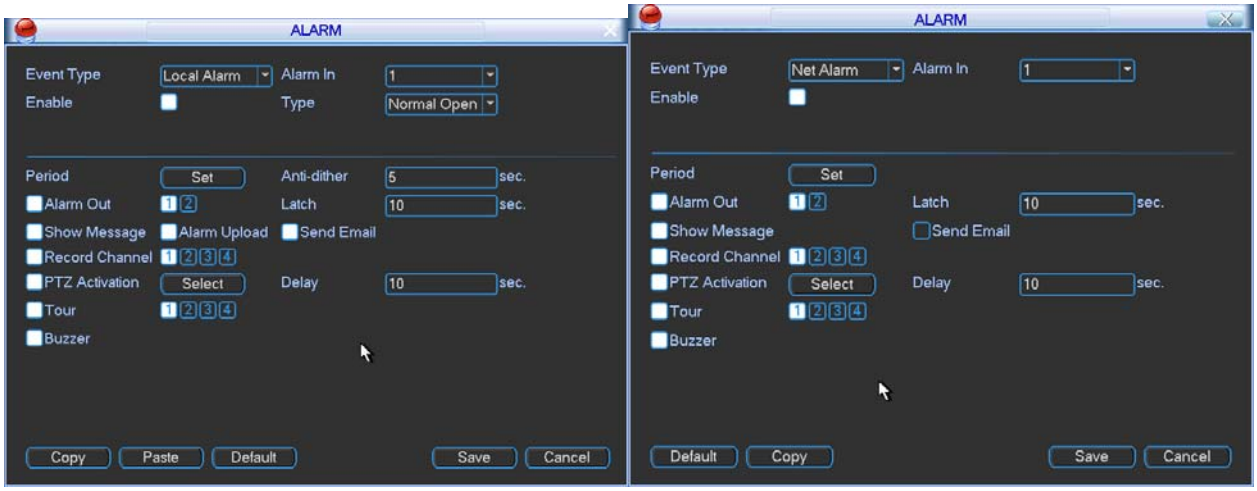


Figure 4-72

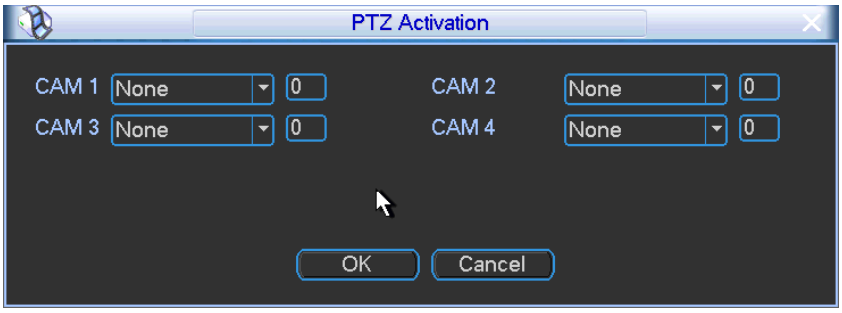


Figure 4-73

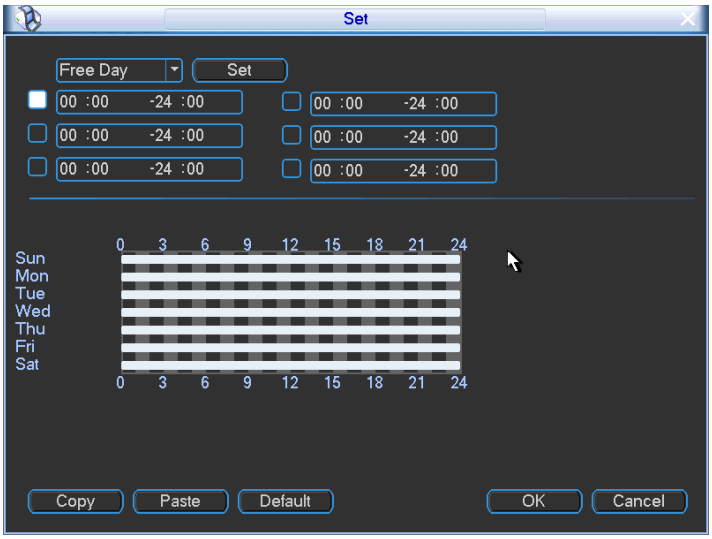


Figure 4-74

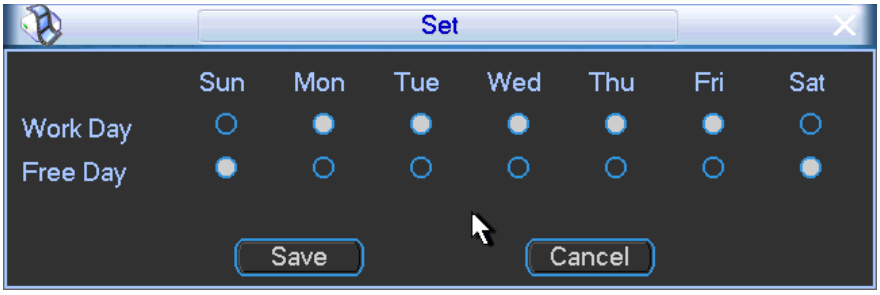


Figure 4-75

4.2.5.7 Detect

In the main menu, from Setting to Detect, you can see motion detect interface. See Figure 4-76.There is three detection types: motion detection, video loss, camera masking.

- The video loss has no detection region and sensitivity setup and camera masking has no detection region setup.
- You can see motion detect icon if current channel has enabled motion detect alarm.
- You can drag you mouse to set motion detect region without Fn button. Please click OK button to save current region setup. Right click mouse to exit current interface.

4.2.5.7.1 Motion Detect

- Event type: From the dropdown list you can select motion detection type.
- Channel: Select a channel from the dropdown list to set motion detect function.
- Enable: Check the box here to enable motion detect function.
- Region: Click select button, the interface is shown as in Figure 4-77. Here you can set motion detection zone. There are 396(PAL)/330(NTSC) small zones. The green zone is current cursor position. Grey zone is the motion detection zone. Black zone is the disarmed zone. You can click Fn button to switch between the arm mode and disarm mode. In arm mode, you can click the direction buttons to move the green rectangle to set the motion detection zone. After you completed the setup, please click ENTER button to exit current setup. Do remember click save button to save current setup. If you click ESC button to exit the region setup interface system will not save your zone setup.
- Sensitivity: System supports 6 levels. The sixth level has the highest sensitivity.
- Period: Click set button, you can see an interface is shown as in Figure 4-79. Here you can set for business day and non-business day. In Figure 4-79 click set button, you can see an interface is shown as in Figure 4-80. Here you can set your own setup for business day and non-business day.
- Anti-dither: System only memorizes one event during the anti-dither period. The value ranges from 5s to 600s.
- Alarm output: when a motion detect alarm occurs, system enables peripheral alarm devices.
- Latch: when motion detection complete, system auto delays detecting for a specified time. The value ranges from 1-300(Unit: second)
- Show message: System can pop up a message to alarm you in the local host screen if you enabled this function.
- Alarm upload: System can upload the alarm signal to the network (including alarm centre) if you enabled current function.
- Send email: System can send out email to alert you when alarm occurs.

- Record channel: System auto activates motion detection channel(s) to record once an alarm occurs. Please make sure you have set MD record in Schedule interface(Main Menu->Setting->Schedule) and schedule record in manual record interface(Main Menu->Advanced->Manual Record)
- PTZ activation: Here you can set PTZ movement when alarm occurs. You can only go to a preset when there is a motion detect alarm. Click “select” button, you can see an interface is shown as in Figure 4-78.
- Record Delay: System can delay the record for specified time after alarm ended. The value ranges from 10s to 300s.
- Tour: Here you can enable tour function when alarm occurs. System one-window tour. Please go to chapter 4.2.5.9 Display for tour interval setup.
- Buzzer: Highlight the icon to enable this function. The buzzer beeps when alarm occurs.

Please highlight icon to select the corresponding function. After all the setups please click save button, system goes back to the previous menu.

Note:

In motion detection mode, you can not use copy/paste to set channel setup since the video in each channel may not be the same.

In Figure 4-77, you can left click mouse and then drag it to set a region for motion detection. Click Fn to switch between arm/withdraw motion detection. After setting, click enter button to exit.

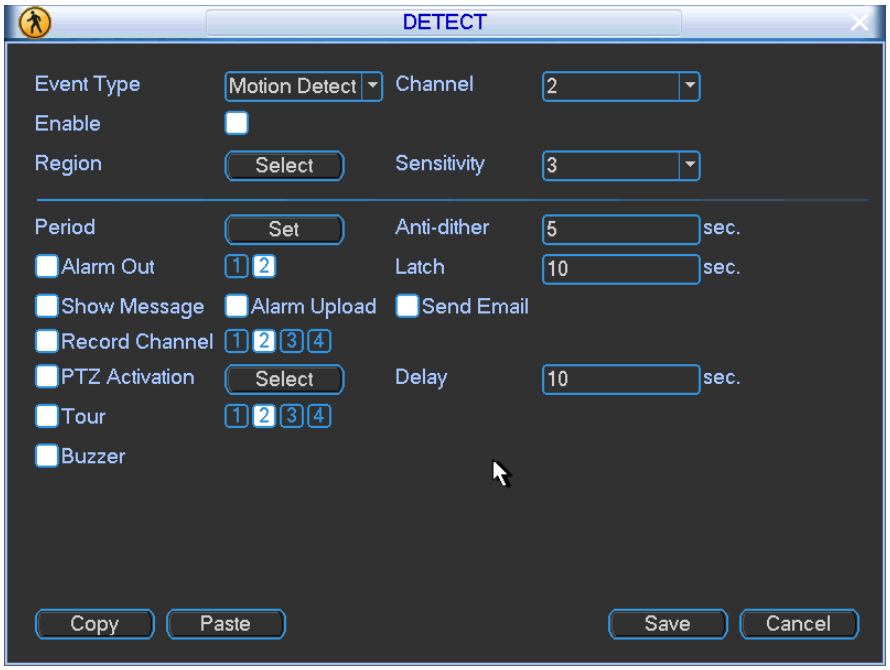


Figure 4-76

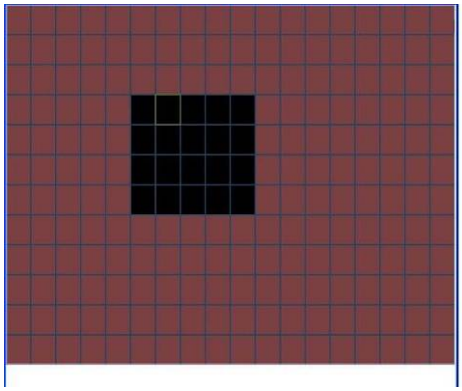


Figure 4-77

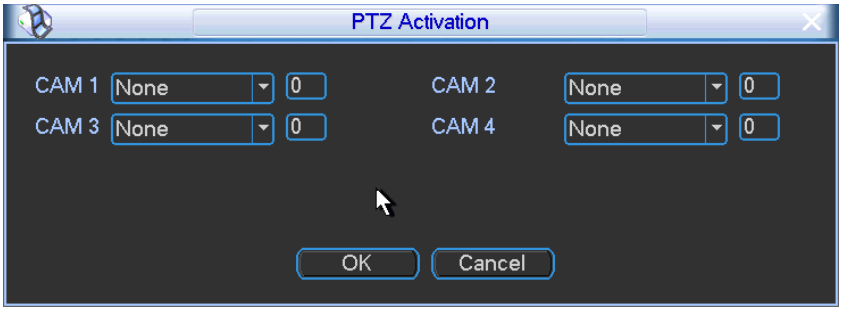


Figure 4-78

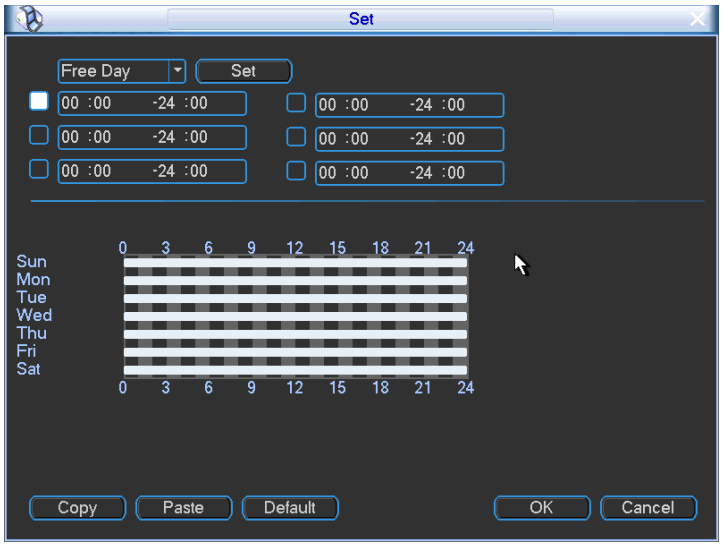


Figure 4-79

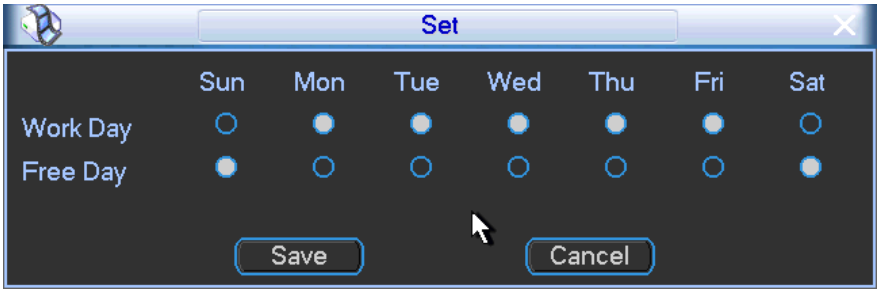


Figure 4-80

4.2.5.7.2 Video Loss

In Figure 4-76, select video loss from the type list. You can see the interface is shown as in Figure 4-81.This function allows you to be informed when video loss phenomenon occurred. You can enable alarm output channel and then enable show message function.

Tips:

You can enable preset/tour/pattern activation operation when video loss occurs.

Please refer to chapter 4.2.5.7.1 Motion detect for detailed information.

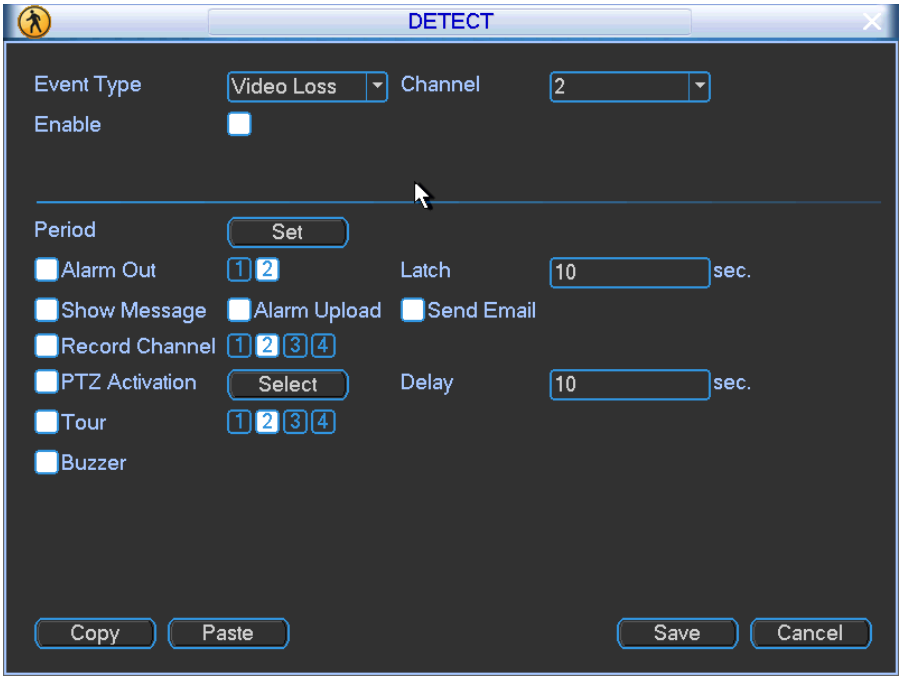


Figure 4-81

4.2.5.7.3 Camera Masking

When someone viciously masks the lens, or the output video is in one-color due to the environments light change, the system can alert you to guarantee video continuity. Camera masking interface is shown as in Figure 4-82. You can enable alarm output channel and then enable show message function.

Tips:

You can enable preset/tour/pattern activation operation when video loss occurs.

Please refer to chapter 4.2.5.7.1 Motion detect for detailed information.

Note:

- In Detect interface, copy/paste function is only valid for the same type, which means you can not copy a channel setup in video loss mode to camera masking mode.
- About Default function. Since detection channel and detection type may not be the same, system can only restore default setup of current detect type. For example, if you click Default button at the camera masking interface, you can only restore default camera masking setup. It is null for other detect types.
- System only enables camera masking function during the period you set here. It is null for motion detect or video loss type.

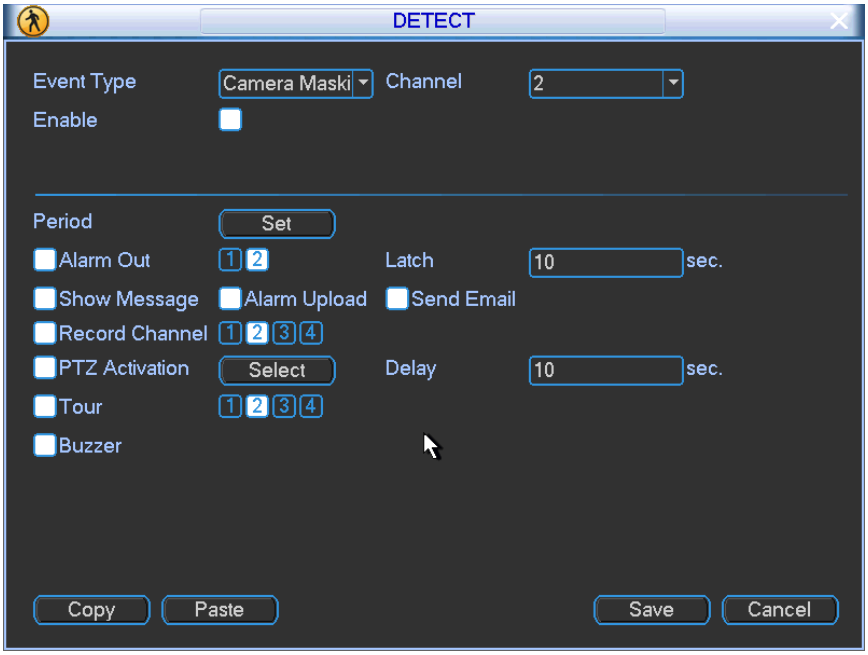


Figure 4-82

4.2.5.7.4 Audio Detect

In this interface, you can set min and max volume. System can generate an alarm when current setup exceeds the threshold you set here. You can enable alarm output channel and then enable show message function. Please refer to chapter 4.2.5.7.1 Motion detection for detailed information.

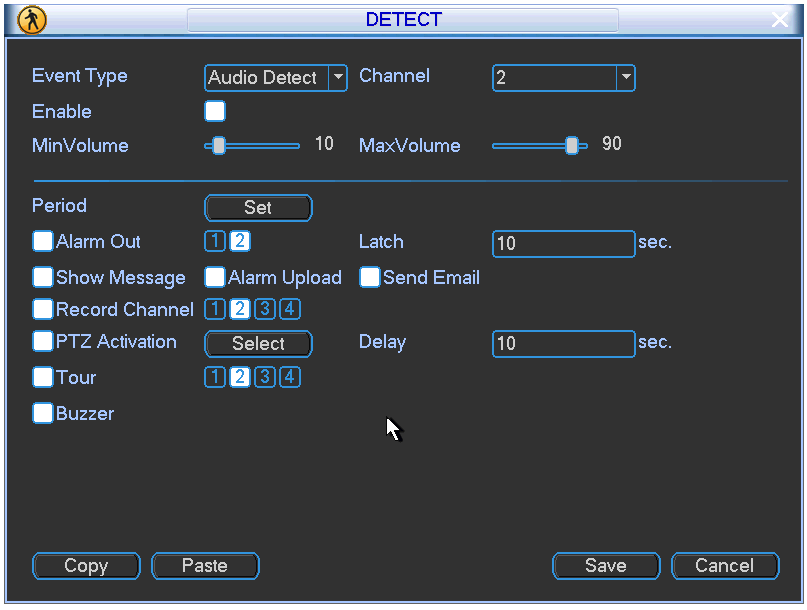


Figure 4-83

You can view volume bar at the right bottom of each channel. The volume bar is shown as red when it reaches the highest value.

4.2.5.8 Pan/Tilt/Zoom

The pan/tilt/zoom setup includes the following items. Please select channel first. See Figure 4-84.

- Channel: Select network camera connected channel.
- PTZ type: There are two options: local/remote.
- Protocol: Select corresponding PTZ protocol such as PELCOD.

- Address: input corresponding PTZ address.
- Baud rate: Select baud rate.
- Data bit: Select data bit. Default setup is 8.
- Stop bit: Select stop bit. Default setup is 1.
- Parity: There are three choices: none/odd/even. Default setup is none.

After completed all the setups please click save button, system goes back to the previous menu.

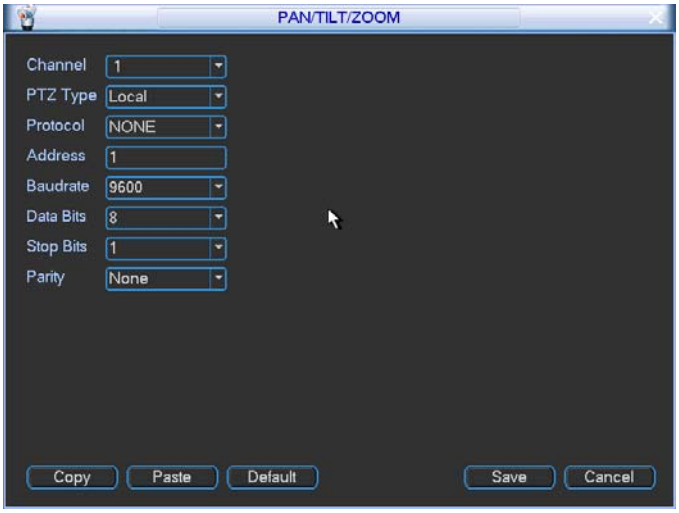


Figure 4-84

If you are connecting to network PTZ, the PTZ type shall be remote. See Figure 4-85.

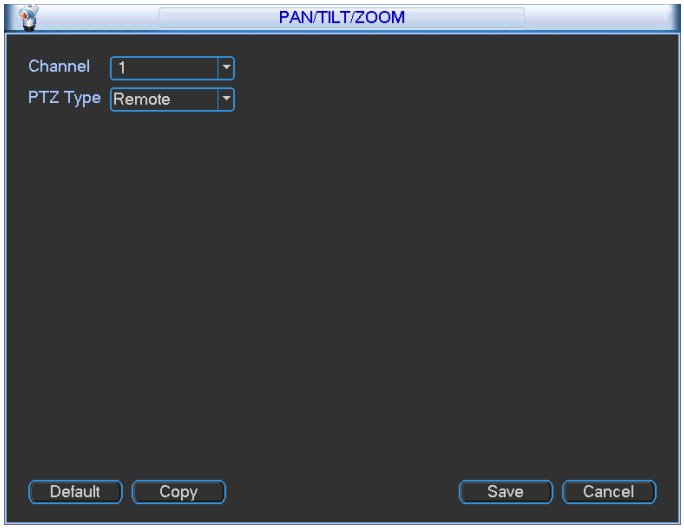


Figure 4-85

In the one-window surveillance mode, right click mouse (click “fn” Button in the front panel). The interface is shown as below: See Figure 4-86.

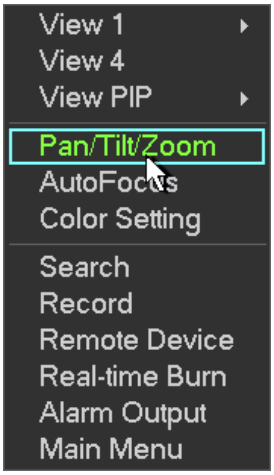


Figure 4-86

Click Pan/Tilt/Zoom, the interface is shown as in Figure 4-87.
Please click icon and to adjust zoom, focus and Iris.

Figure 4-87

Please refer to chapter 4.1.7 for detailed information.

4.2.5.9 Display

Display setup interface is shown as below. See Figure 4-88.

- Transparency: Here is for you to adjust transparency. The value ranges from 128 to 255.
- Channel name: Click the Modify button here to change channel name. See Figure 4-89. You can also set PIP channel name. Select remote front the dropdown list you can change channel remote name. See Figure 4-90.
- Time display: You can select to display time or not when system is playback.
- Channel display: You can select to channel name or not when system is playback.
- Screen calibration: Click it to calibrate screen.
- Resolution: There are four options: 1920×1080, 1280×1024(default),1280×720,1024×768. Please note the system needs to reboot to activate current setup.
- Image enhance: Check the box; you can optimize the margin of the preview video.
- Enable tour: Check the box here to enable tour function.
- Interval: Set tour interval here.
- Tour setup: Here you can activate tour function. System supports 1/4-window.
- Motion tour type/alarm tour type: You can select motion tour type/alarm tout type from the dropdown list.

- PIP position: You can set the small window position on the screen. The options include: top left, top right, bottom left, bottom right.

Please highlight icon to select the corresponding function.

After completing all the setups please click save button, system goes back to the previous menu.

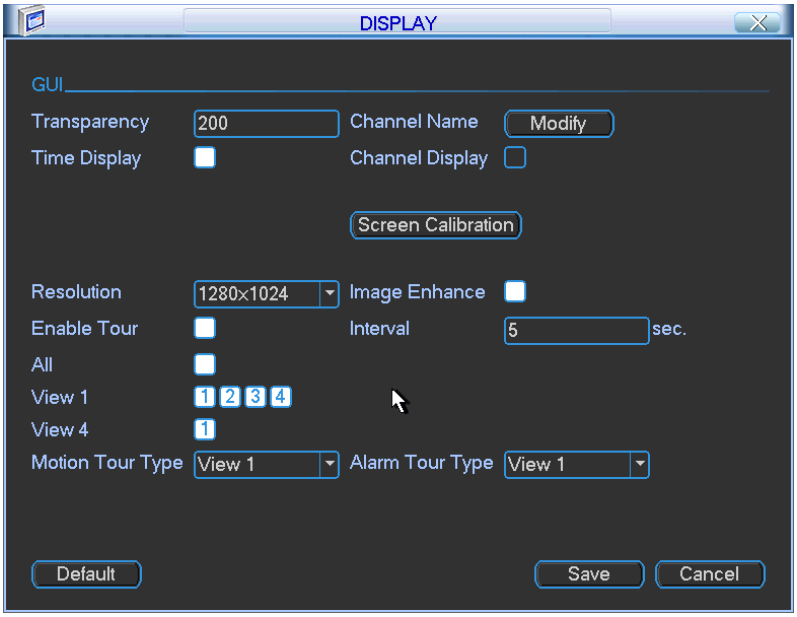


Figure 4-88

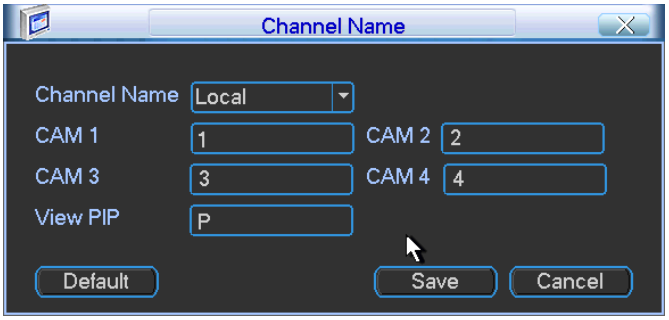


Figure 4-89

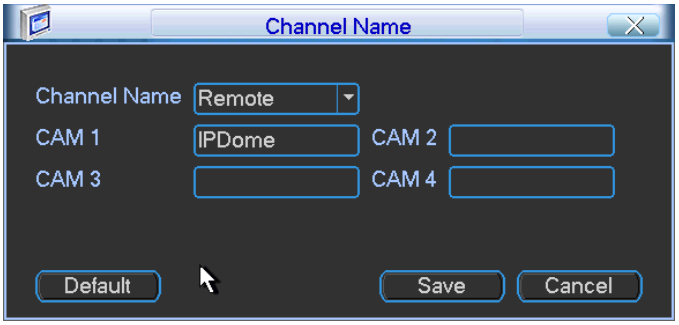


Figure 4-90

4.2.5.10 Default

Click default icon, system pops up a dialogue box. You can highlight to restore default factory setup. See Figure 5-26.

- Select all
- General
- Encode
- Schedule
- RS232
- Network
- Alarm
- Detect
- Pan/tilt/zoom
- Display
- Channel name
- Remote Device

Please highlight icon to select the corresponding function.

After all the setups please click save button, system goes back to the previous menu.

Warning!

System menu color, language, time display mode, video format, IP address, user account will not maintain previous setup after default operation!

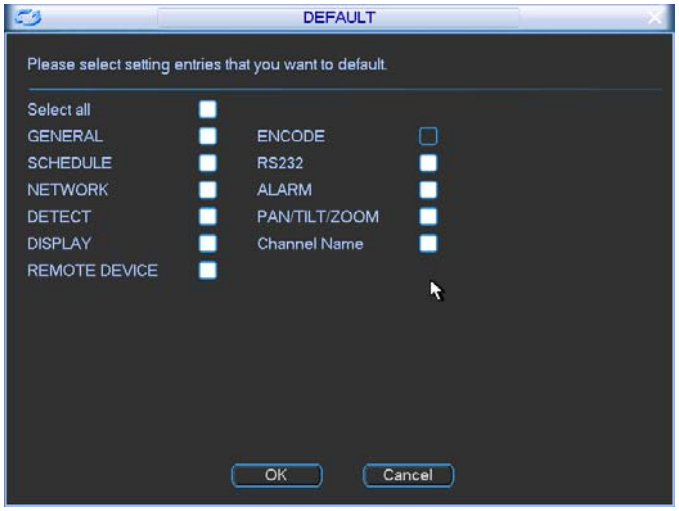


Figure 4-91

4.2.6 Remote Device

In the main menu, click the Remote Device icon to go to the corresponding interface.

The remote device interface is shown as in Figure 4-92.

- IP search: Click it to search IP address.
- Add: Click it to connect to the selected device and add it to the Added device list. Support Batch add.
- Show filter: You can use it to display the specified devices from the added device.
- Delete: Please select one device in the Added device list and then click it to remove.

- Manual add: Click it to add the IPC manually. The default port number is 37777 if the manufacture is Private. The default user name is **admin** and password is **admin**.

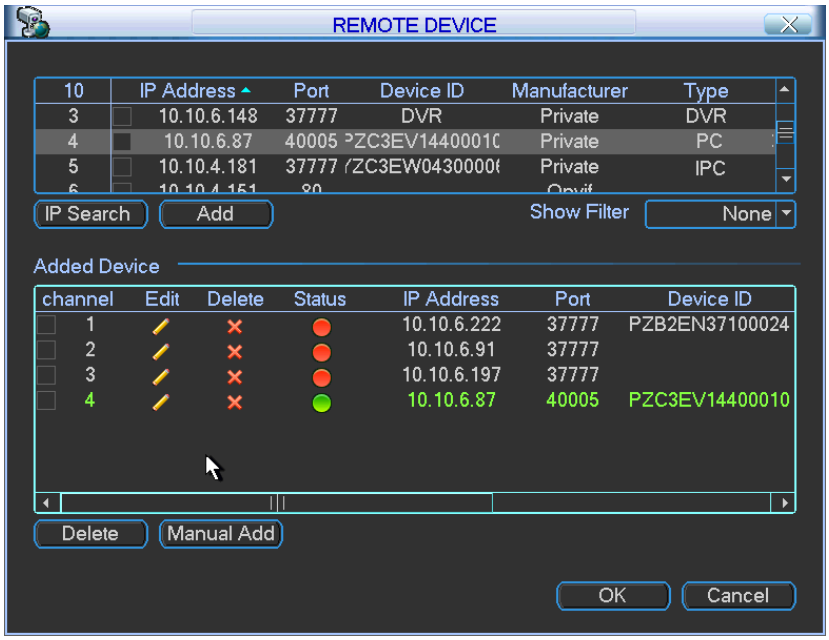


Figure 4-92

Click the Manual Add button; you can go to the following interface. See Figure 4-93.
This series product supports the IPC from many popular manufactures such as Sony, Hitachi, Axis, Samsung, and Dahua.

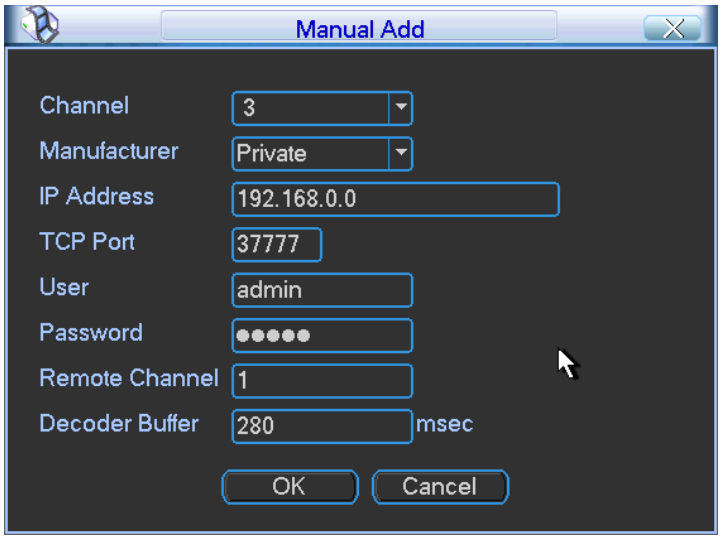


Figure 4-93

4.2.7 Advanced

Double click advanced icon in the main window, the interface is shown as below. See Figure 4-94.There are total eight function keys: HDD management, alarm output, abnormality, manual record, account, auto maintenance, config backup, and card overlay.

Figure 4-94

4.2.7.1 HDD Management

Here is for you to view and implement hard disk management. See Figure 4-95.

You can see current HDD type, status, capacity and record time. When HDD is working properly, system is shown as O. When HDD error occurred, system is shown as X.

- Alarm set: Click alarm set button, the interface is shown as below. See Figure 4-96. (This interface is just like the abnormity setup). Please refer to chapter 5.5.2 for detailed information.
- HDD operation: You can select HDD mode from the dropdown list such as read-only or you can erase all data in the HDD. Please note system needs to reboot to get all the modification activated.

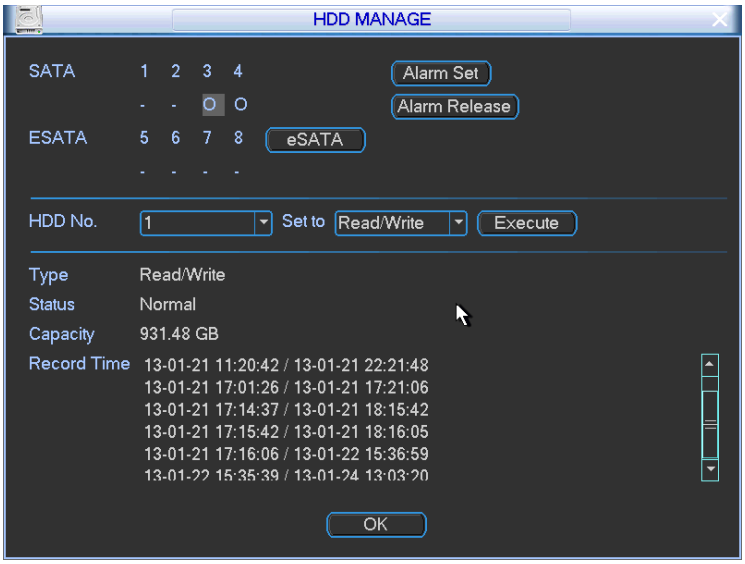


Figure 4-95

Please highlight icon to select the corresponding function.

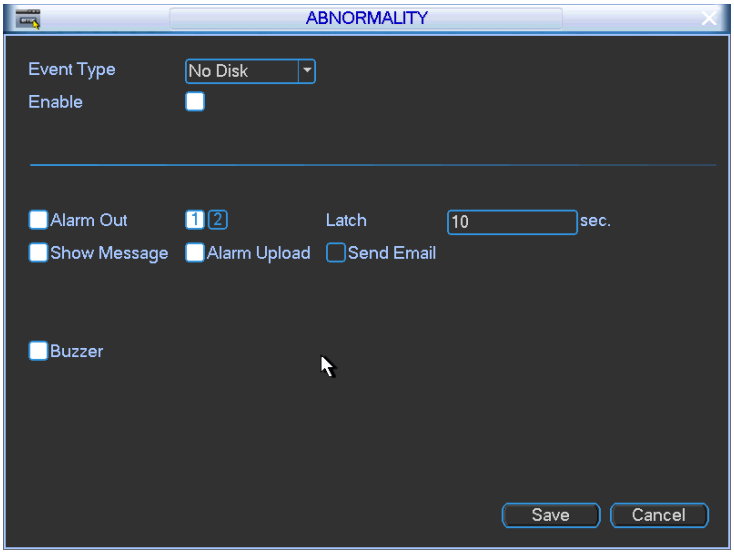


Figure 4-96

4.2.7.2 Abnormality

Abnormality interface is shown as in Figure 4-97.

- Event type: There are several options for you such as disk error, no disk, disk no space, net disconnection,, IP conflict, MAC conflict, burning error and etc. (multiple choices)
- Alarm output: Please select alarm activation output port (multiple choices).
- Latch: Here you can set corresponding delaying time. The value ranges from 1s-300s. System automatically delays specified seconds in turning off alarm and activated output after external alarm cancelled.
- Show message: system can pop up the message in the local screen to alert you when alarm occurs.
- Alarm upload: System can upload the alarm signal to the network (including alarm centre) if you enabled current function.
- Send email: System can send out email to alert you when alarm occurs.
- Buzzer: Highlight the icon to enable this function. The buzzer beeps when alarm occurs.

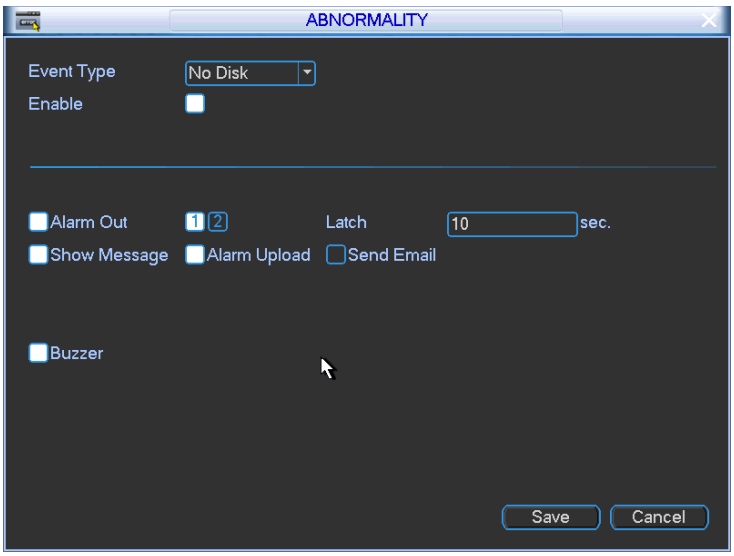


Figure 4-97

4.2.7.3 Alarm Output

Here is for you to set proper alarm output.

Please highlight icon to select the corresponding alarm output.

If there is any alarm, you can view at the status item.

After all the setups please click OK button, system goes back to the previous menu. See Figure 4-98.

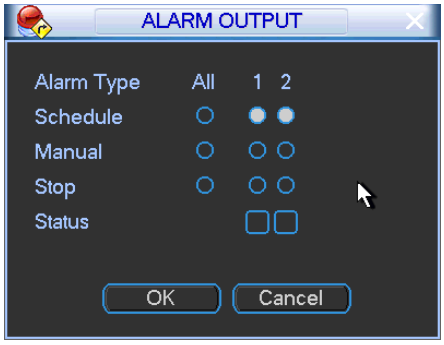


Figure 4-98

4.2.7.4 Manual Record

Note:

You need to have proper rights to implement the following operations. Please make sure the HDD has been properly installed.

4.2.7.4.1 Manual record menu

There are two ways for you to go to manual record menu.

- Right click mouse or in the main menu, Advanced->Manual Record.
- In live viewing mode, click record button in the front panel or record button in the remote control.

Manual record menu is shown as in Figure 4-99.

4.2.7.4.2 Basic operation

There are three statuses: schedule/manual/stop. Please highlight icon "○" to select corresponding channel.

- Manual: The highest priority. After manual setup, all selected channels will begin ordinary recording.
- Schedule: Channel records as you have set in recording setup (Main Menu->Setting->Schedule)
- Stop: All channels stop recording.

Figure 4-99

4.2.7.4.3 Enable/disable record

Please check current channel status: “○” means it is not in recording status, “●” means it is in recording status.

You can use mouse or direction key to highlight channel number. See Figure 4-100.

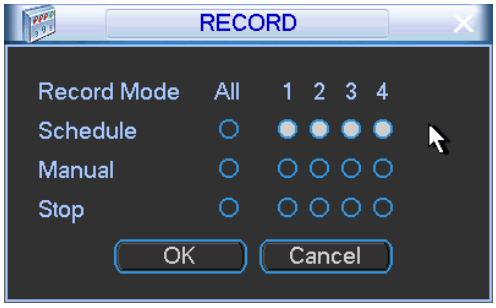


Figure 4-100

4.2.7.4.4 Enable all channel recording

Highlight ○ below All, you can enable all channel recording.

- All channel schedule record

Please highlight “ALL” after “Schedule”. See Figure 4-101.

When system is in schedule recording, all channels will record as you have previously set (Main menu->Setting->Schedule).

The corresponding indication light in front panel will turn on.

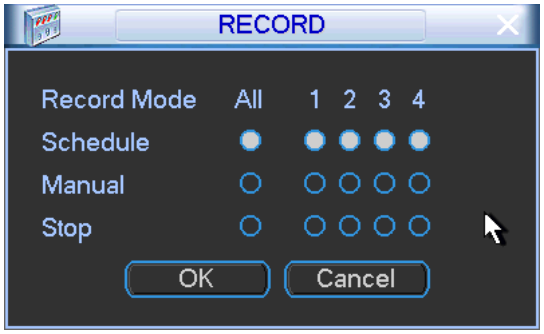


Figure 4-101

- All channel manual record

Please highlight “ALL” after “Manual.” See Figure 4-102.

When system is in manual recording, all scheduled set up you have set in will be null ((Main menu->Setting->Schedule)).

You can see indication light in front panel turns on, system begins manual record now.

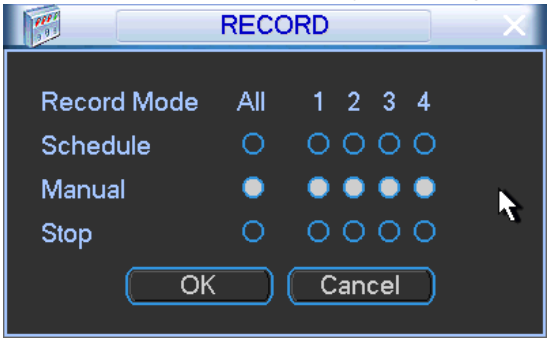


Figure 4-102

4.2.7.4.5 Stop all channel recording

Please highlight “ALL” after “Stop”. See Figure 4-103.

System stops all channel recording no matter what mode you have set in the menu (Main menu->Setting->Schedule)

Figure 4-103

4.2.7.5 Account

Here is for you to implement account management. See Figure 4-104. Here you can:

- Add new user
- Modify user
- Add group
- Modify group
- Modify password.

For account management please note:

- For the user account name and the user group, the string max length is 6-byte. The backspace in front of or at the back of the string is invalid. There can be backspace in the middle. The string includes the valid character, letter, number, underline, subtraction sign, and dot.
- System account adopts two-level management: group and user. No limit to group or user amount.
- For group or user management, there are two levels: admin and user.
- One user should belong to one group. User right can not exceed group right.
- About reusable function: this function allows multiple users use the same account to login.

After all the setups please click save button, system goes back to the previous menu.

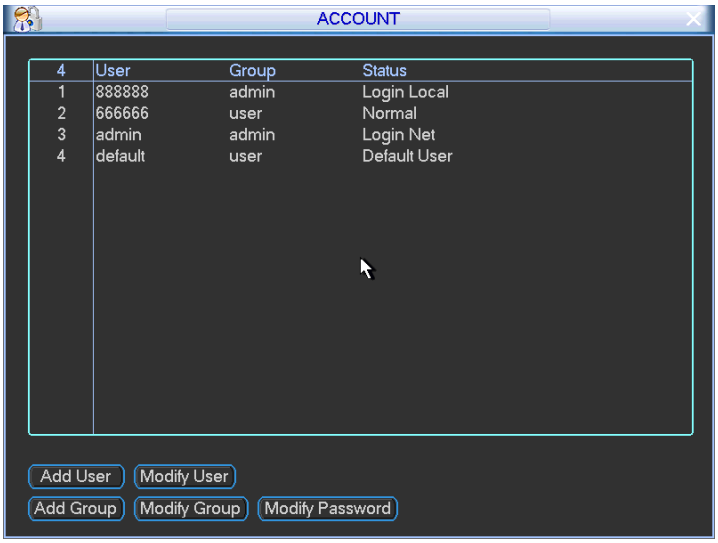


Figure 4-104

4.2.7.5.1 Modify Password

Click password button, the interface is shown as in Figure 4-105.

Here you can modify account password.

Please select the account from the dropdown list, input the old password and then input the new password twice. Click the Save button to confirm current modification.

For the users of user account right, it can modify password of other users.

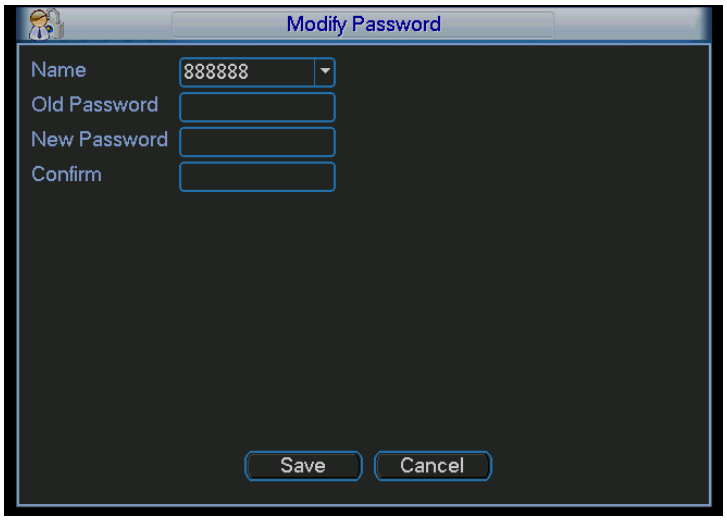


Figure 4-105

4.2.7.5.2 Add/Modify Group

Click add group button, the interface is shown as below. See Figure 4-106.

Here you can input group name and then input some memo information if necessary.

There are total 60 rights such as control panel, shut down, real-time monitor, playback, record, record file backup, PTZ, user account, system information view, alarm input/output setup, system setup, log view, clear log, upgrade system, control device and etc.

The modify group interface is similar to the Figure 4-106.

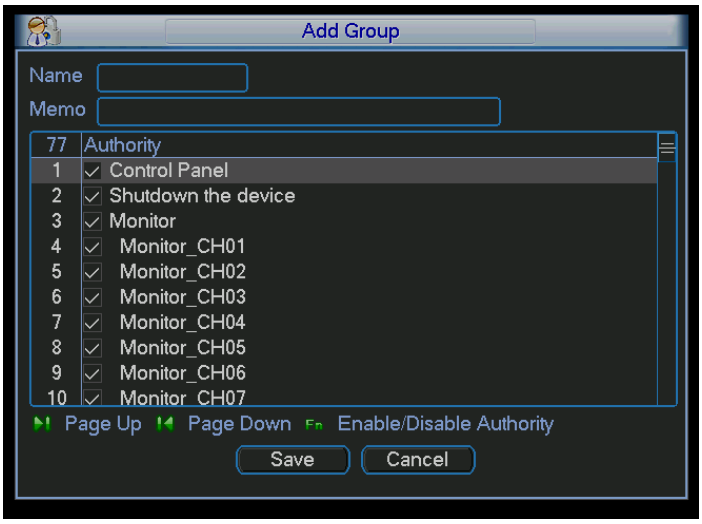


Figure 4-106

4.2.7.5.3 Add/Modify User

Click add user button, the interface is shown as in Figure 4-107.

Please input the user name, password and select the group it belongs to from the dropdown list.

Then you can check the corresponding rights for current user.
For convenient user management, usually we recommend the general user right is lower than the admin account.
The modify user interface is similar to Figure 4-107.

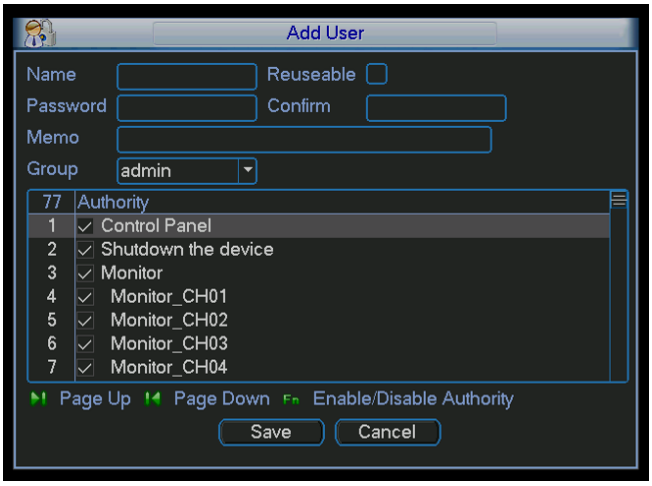


Figure 4-107

When you create a new user, you can input the corresponding MAC address of current user. If you leave this item in blank, any MAC address user can share this user account to login. Only the 12-digit 0-f format address can pass the validity verification. System only saves small character even you input capitalized one. You can see the corresponding prompt if there is any illegal input.

4.2.7.6 Auto Maintenance

Here you can set auto-reboot time and auto-delete old files setup. You can set to delete the files for the specified days. See Figure 4-108.
You can select proper setup from dropdown list.
After all the setups please click save button, system goes back to the previous menu.

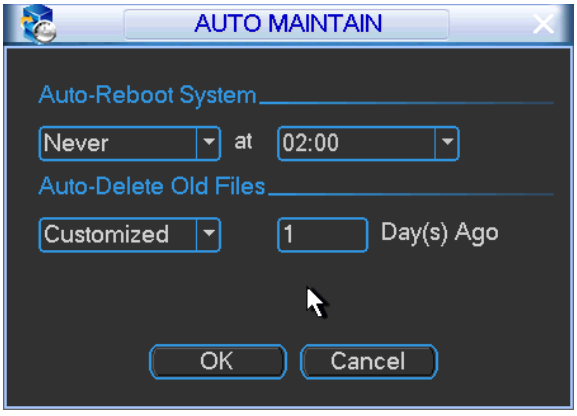


Figure 4-108

4.2.7.7 Card Overlay

The card overlay function is for financial areas. It includes Sniffer, information analysis and title overlay function. The Sniffer mode includes COM and network.

4.2.7.7.1 COM Type

The COM interface is shown as below. See Figure 4-109.

- Protocol: Please select from the dropdown list.
- COM Setting: Click COM setting button, the interface is shown as in RS232 interface. Please refer to Chapter 5.3.4 RS232.
- Overlay setup: Click set button, the interface is shown as in Figure 4-110 if you select PIP channel. The interface is shown as in Figure 4-111 if you select channel 1/2/3/4.
- Overlay color: You can select overlay color from the dropdown list.

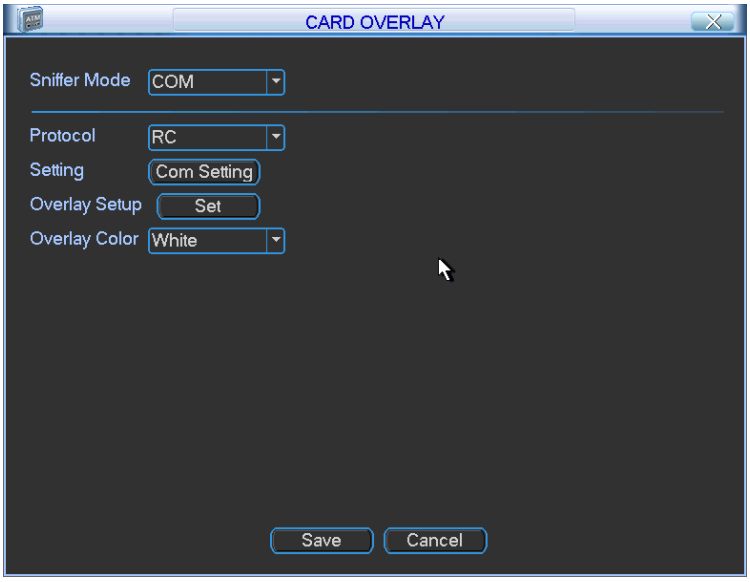


Figure 4-109

Figure 4-110

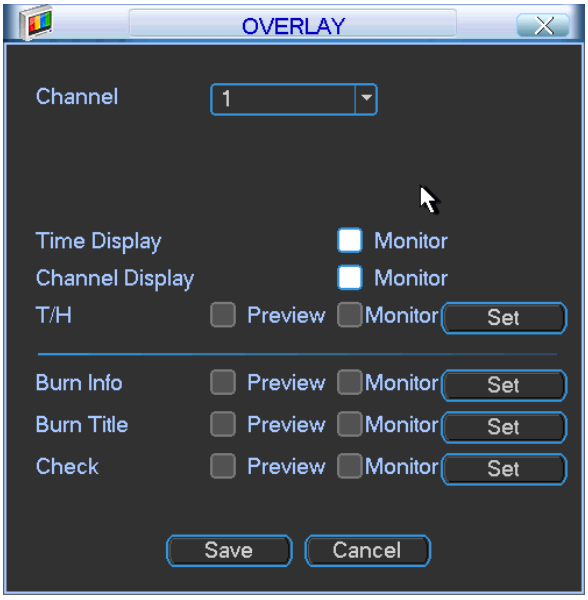


Figure 4-111

4.2.7.7.2 Network Type

The network type interface is shown as below. See Figure 4-112.

Here we take the ATM/POS protocol to continue.

There are two types: with or without the protocol according to client's requirements.

With the protocol

For ATM/POS with the protocol, you just need to set the source IP, destination IP (sometimes you need to input corresponding port number).

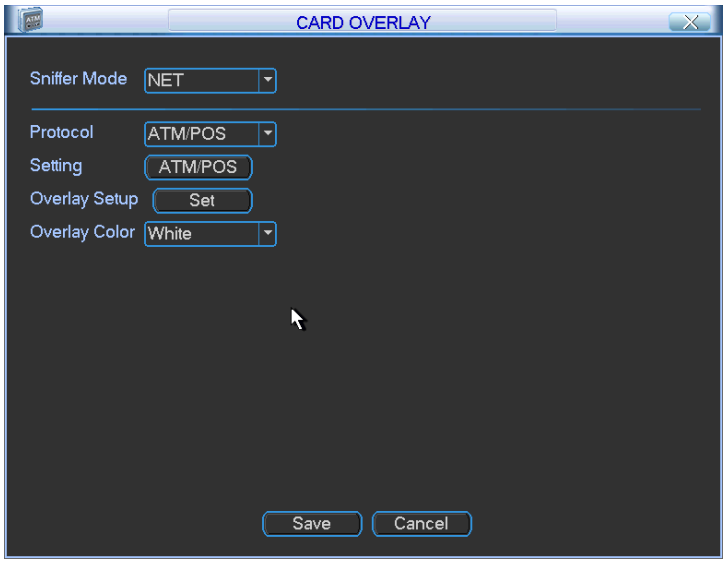


Figure 4-112

Without the protocol

For the ATM/POS without the protocol, the interface is shown as in Figure 4-113.

Source IP refers to host IP address that sends out information (usually it is the device host.)

Destination IP refers to other systems that receive information.

Usually you do not need to set source port and target port.

There are total four groups IP. The record channel applies to one group (optional) only.
Six frame ID groups verification can guarantee information validity and legal.

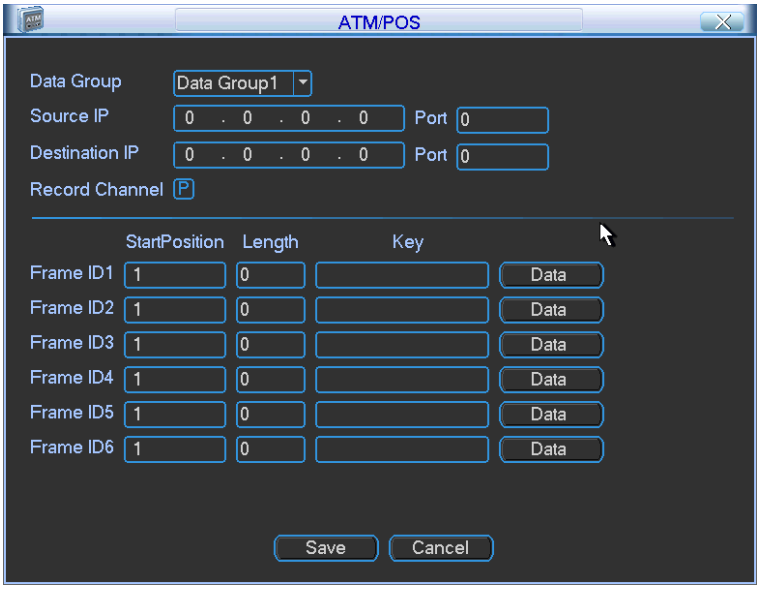


Figure 4-113

Click Data button you can see an interface is shown as in Figure 4-114.
Here you can set offset value, length, title according to your communication protocol and data package. .

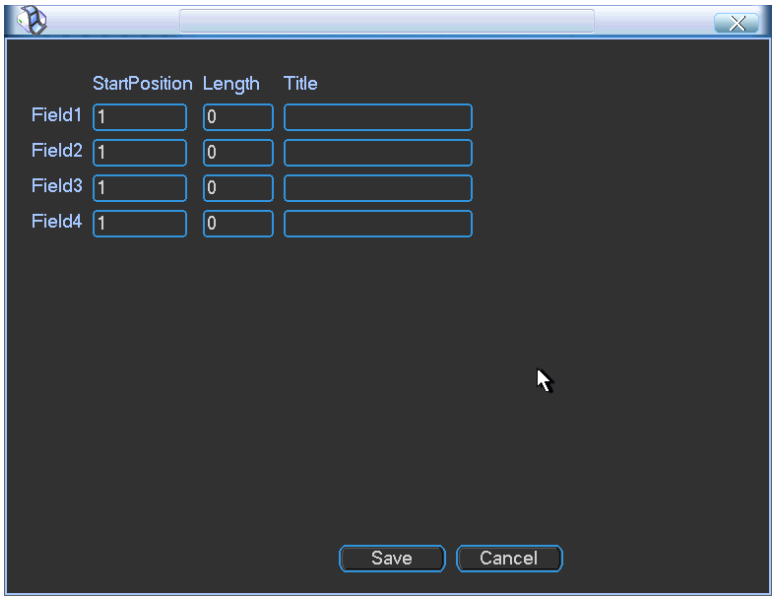


Figure 4-114

4.2.7.8 Config Backup

The configuration file backup interface is shown as below. See Figure 4-115.
This function allows you to import/export system configuration. You can use this function when there are several devices need the same setup.

- Export: Please connect the peripheral device first and then go to the following interface. Click Export button, you can see there is a corresponding “Config_Time” folder. Double click the folder, you can view some backup files.

- Import: Here you can import the configuration files from the peripheral device to current device. You need to select a folder first. You can see a dialogue box asking you to select a folder if you are selecting a file. System pops up a dialogue box if there is no configuration file under current folder. After successfully import, system needs to reboot to activate new setup.
- Format: Click Format button, system pops up a dialogue box for you to confirm current operation. System begins format process after you click the OK button.

Note:

- System can not open config backup interface again if there is backup operation in the process.
- System refreshes device when you go to the config backup every time and set current directory as the root directory of the peripheral device.
- If you go to the configuration backup interface first and then insert the peripheral device, please click Refresh button to see the newly added device.

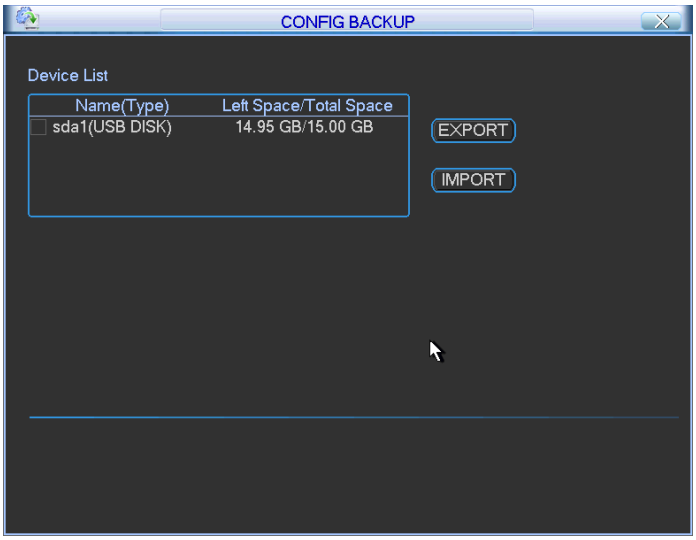


Figure 4-115

4.2.8 Backup

NVR support USB device backup and network download. Here we introduce USB backup. You can refer to Chapter 5 Web Operation for network download backup operation.

4.2.8.1 Detect Device

Click backup button, you can see an interface is shown as in Figure 4-116. Here is for you to view devices information.

You can view backup device name and its total space and free space. The device includes USB burner, flash disk, SD card, and portable HDD.

You can check the box here to select a backup device. Select a device and then click Erase button you can delete files.

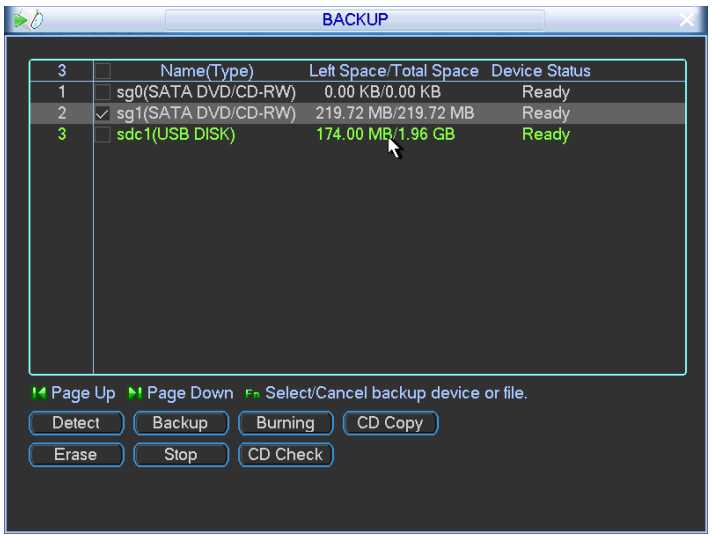


Figure 4-116

4.2.8.2 Backup

Select backup device and then set channel, file start time and end time.

Click add button, system begins search. All matched files are listed below. System automatically calculates the capacity needed and remained. See Figure 4-117.

system only backup files with a √ before channel name. You can use Fn or cancel button to delete √ after file serial number.

Click backup button, you can backup selected files. There is a process bar for you reference. When the system completes backup, you can see a dialogue box prompting successful backup.

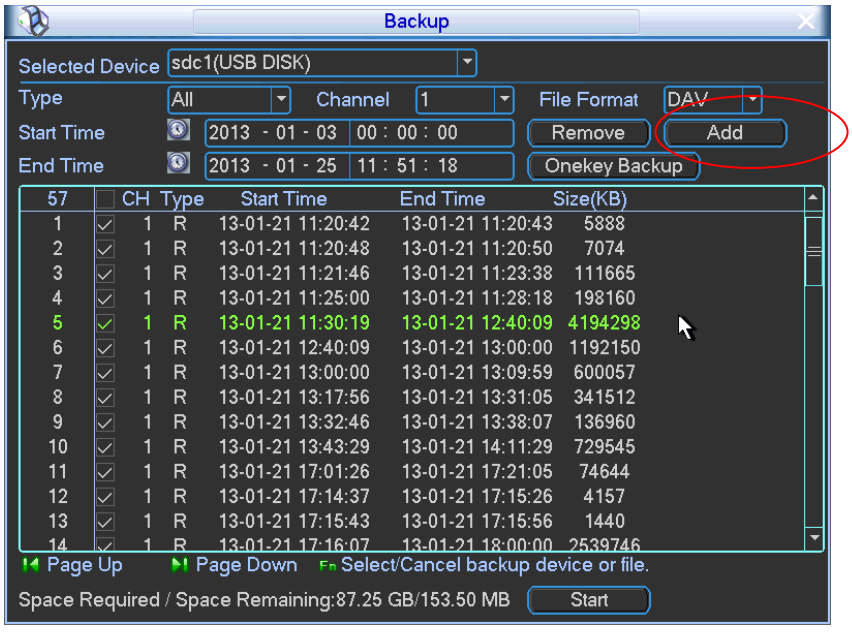


Figure 4-117

Click backup button, system begins burning. At the same time, the backup button becomes stop button. You can view the remaining time and process bar at the left bottom. See Figure 4-118.

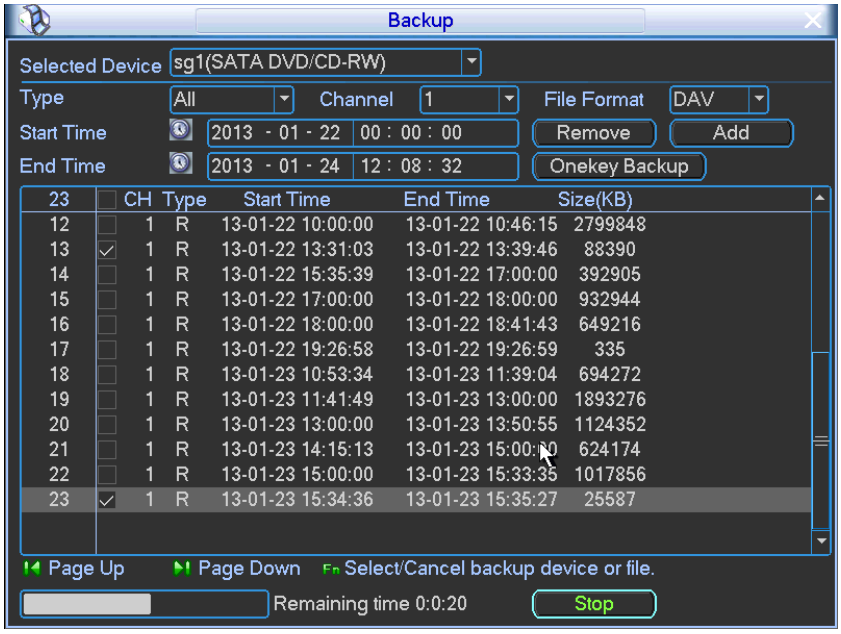


Figure 4-118

- File format: Click the file format; you can see there are two options: DAV/ASF.
- Picture backup: Please set the corresponding time, channel and then select the type as PIC from the dropdown list. Please click the Add button and then select the pictures. Click the Start button; you can copy the specified pictures to the selected portable devices.
- One key backup: It includes three steps: the search, select all, start the backup. You can skip the above three steps and then copy all the searched files directly.
- Cancel backup: When you click stop button during the burning process, the stop function becomes activated immediately. For example, if there are ten files, when you click stop system just backup five files, system only save the previous 5 files in the device (But you can view ten file names). During backup process, you can click ESC to exit current interface for other operation. The system will not terminate backup process.
- PgUp/PgDw: Click it to view more pages.
- Fn: After you search files, all the files in the list are selected to backup. You can use Fn button to select or cancel.

The file name format usually is: SN_CH+channel number+time Y+M+D+H+M+S. In the file name, the YDM format is the same as you set in general interface. (Main Menu ->Setting ->General).File extension name is .dav.

4.2.8.3 Burning

The interface is shown as in Figure 4-119.

- Selected device: Select current burning driver.
- Volume rename: Here you can change CD name (The CD name displays on the PC.). Please input a new name and then click volume rename button.
- Record channel: Select the data from the corresponding channel. Right now system supports 2-channel real-time burning (PIP burning).

- Current free space: Here you can set a threshold here. System can generate an alarm to alert you once the CD free space is below you value you set here. There are four alarm methods: buzzer/stop burning/alarm output/show message.
- Start sync burning: You can select one or more CD to burning at the same time. System burns the same data. System stops burning when it finishes burning. Or you can stop manually.
- Start tour burning: You need to select several CD to begin circle burning. System begins burning from the first CD and then auto goes to the second CD until it finishes all CD burning.
- Change CD: During the CD burning process, you can click it to replace CD manually. System pops up current CD and then you can input a new one. System begins burning data from the previous 5 minutes of the previous CD so that there is no missing data between these two CDs.
- Pause: During the burning process, you can pause current burning if the court is adjournment. Click continue button, you can begin burning again and all data is on the same CD.

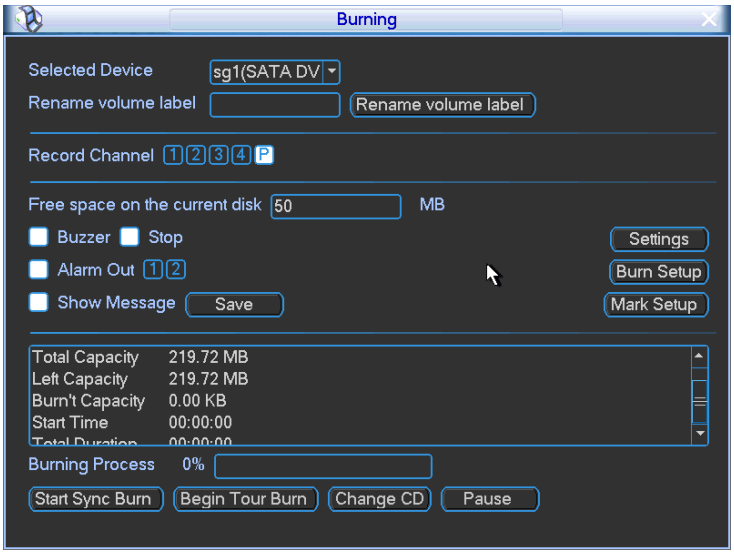


Figure 4-119

4.2.9 Shutdown

Double click shutdown button, system pops up a dialogue box for you to select. See Figure 4-120

- Logout menu user: log out menu. You need to input password when you login the next time.
- Restart application: reboot NVR.
- Shutdown: system shuts down and turns off power.
- Restart system: system begins rebooting.
- Switch user: you can use another account to log in.

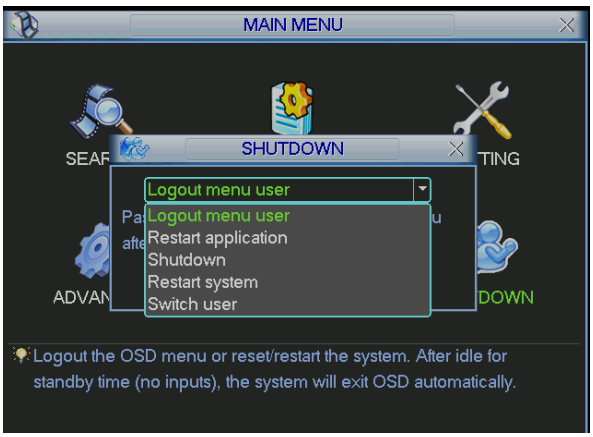

MAIN MENU
SEAF
TING
SHUTDOWN
Logout menu user
Logout menu user
Restart application
Shutdown
Restart system
Switch user
ADVAN
DOWN
Logout the OSD menu or reset/restart the system. After idle for standby time (no inputs), the system will exit OSD automatically.

Figure 4-120

5 WEB OPERATION

There might be slightly difference in the interface due to different series.

5.1 Network Connection

Before web operation, please check the following items:

- Network connection is right
- NVR and PC network setup is right. Please refer to network setup(main menu->setting->network)
- Use order ping ***.***.***.***(* NVR IP address) to check connection is OK or not. Usually the return TTL value should be less than 255.
- Open the IE and then input NVR IP address.
- System can automatically download latest web control and the new version can overwrite the previous one.
- If you want to un-install the web control, please run *uninstall webrec2.0.bat*. Or you can go to C:\Program Files\webrec to remove single folder. Please note, before you un-install, please close all web pages, otherwise the un-installation might result in error.

5.2 Login

Open IE and input NVR address in the address column. For example, if your NVR IP is 10.10.3.16, then please input http:// 10.10.3.16 in IE address column. See Figure 5-1.

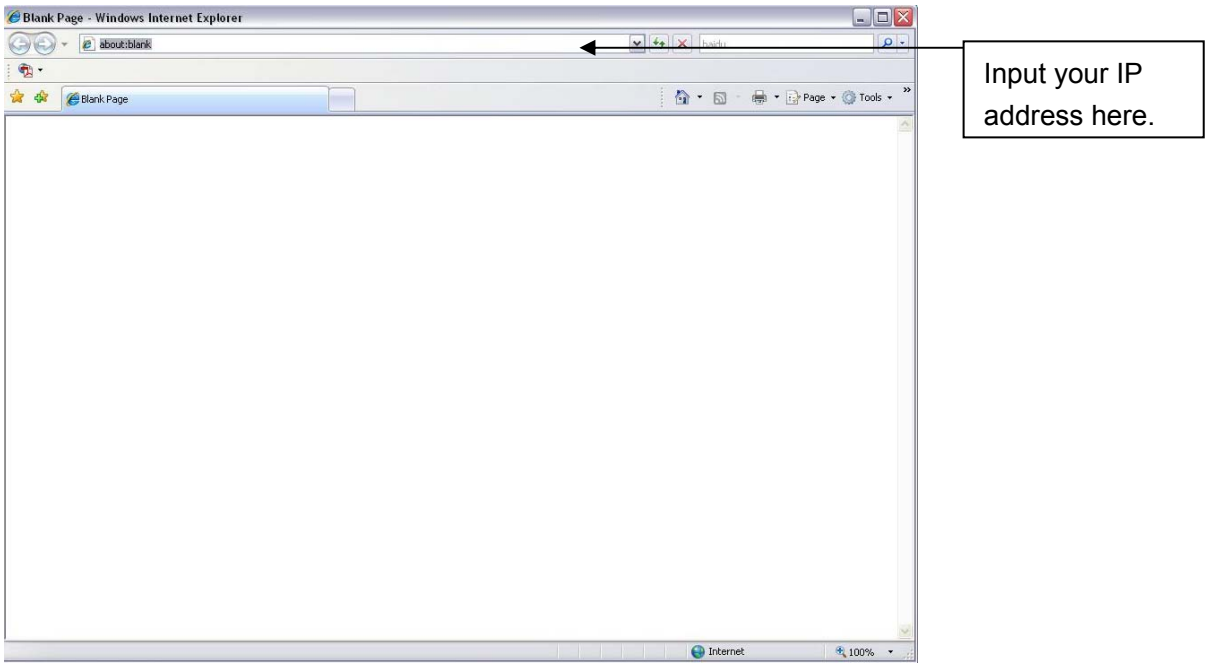


Figure 5-1

System pops up warning information to ask you whether install webrec.cab control or not. Please click yes button.

If you can't download the ActiveX file, please modify your settings as follows. See Figure 5-2.

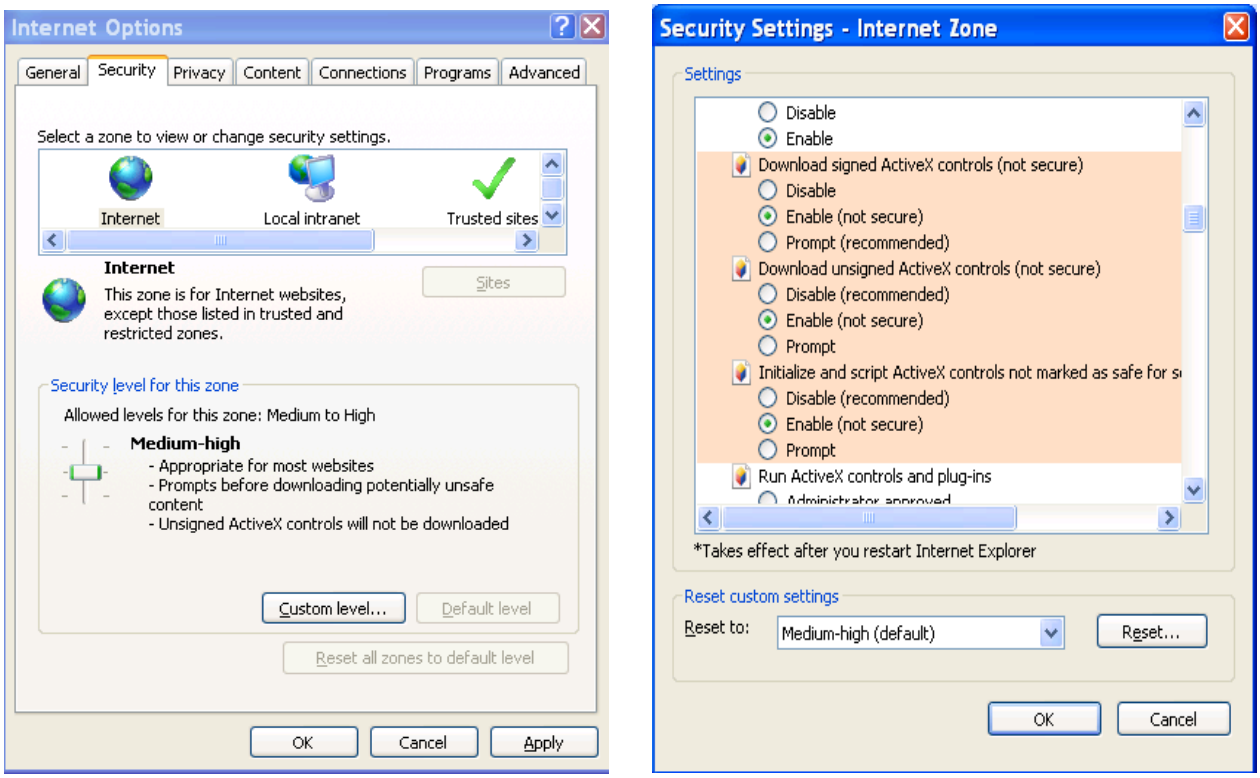


Figure 5-2

After installation, the interface is shown as below. See Figure 5-3.

Please input your user name and password.

Default factory name is **admin** and password is **admin**.

Then you can select the login mode: LAN and WAN.

Note: For security reasons, please modify your password after you first login.

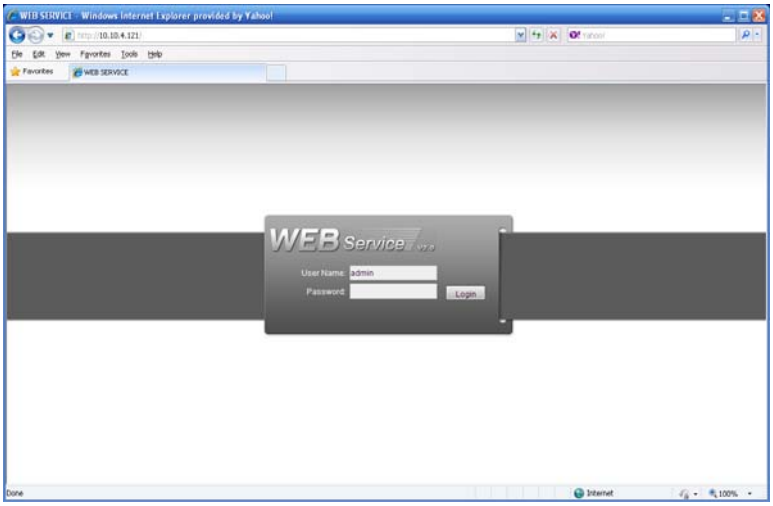


Figure 5-3

After you logged in, you can see the main window. See Figure 5-6.

This main window can be divided into the following sections.

- Section 1: there are five function buttons: configuration (chapter 5.3), search (chapter 5.4), alarm (chapter 5.5), about (chapter 5.6), log out (chapter 5.7).
- Section 2: there are channel number and three function buttons: start dialog and local play, refresh.

- Section3: there are PTZ (chapter 5.2.2), color (chapter5.2.3) button and you can also select picture path and record path.
- Section 4:real-time monitor window. Please note current preview window is circled by a green rectangle zone.
- Section 5: Here you can view window switch button. You can also select video priority between fluency or real-time.
  - ✧ System monitor window switch supports full screen/1-window/4-window/6-window/8-window/9-window/13-window/16-window/20-window/25-window/36-window. See Figure 5-4.

Figure 5-4

✧ Preview window switch. System support 1/4/8/9/16-window real-time preview. Please you need to have the proper rights to implement preview operation. You can not preview if you have no right to preview the either channel. See Figure 5-5. Please note this series device does not support this function.

Figure 5-5

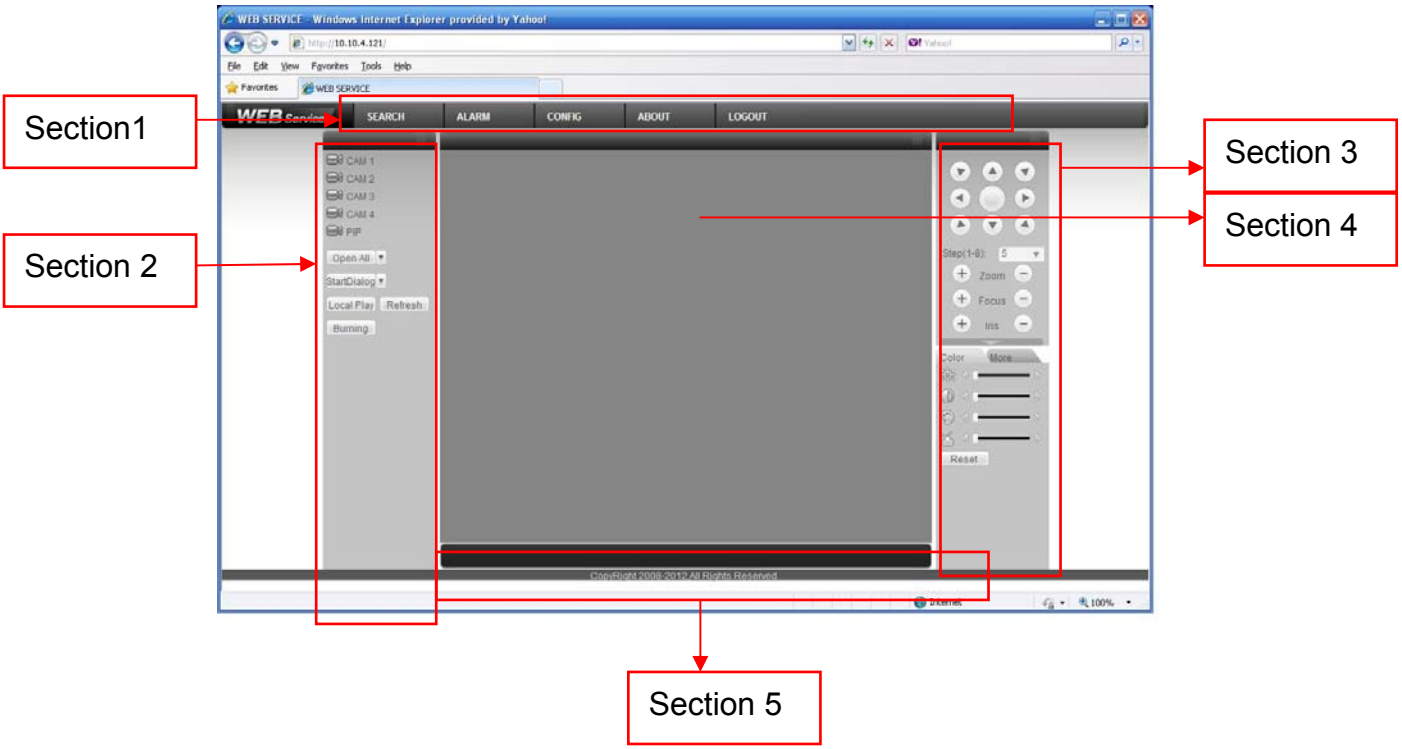


Figure 5-6

5.2.1 Real-time Monitor

In section 2, left click the channel name you want to view, you can see the corresponding video in current window.

On the top left corner, you can view device IP, channel number, network monitor bit stream. See Figure 5-7.

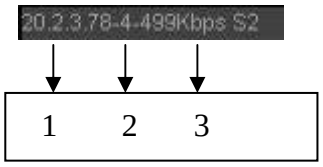


Figure 5-7

On the top right corer, there are six unction buttons. See Figure 5-8.

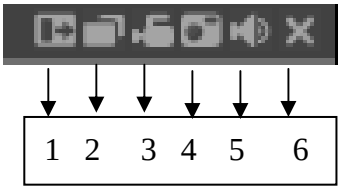


Figure 5-8

- 1: Digital zoom: Click this button and then left drag the mouse in the zone to zoom in. right click mouse system restores original status.
- 2: Change show mode: resize or switch to full screen mode.
- 3: Local record. When you click local record button, the system begins recording and this button becomes highlighted. You can go to system folder RecordDownload to view the recorded file.
- 4: Capture picture. You can snapshoot important video. All images are memorized in system client folder \download\picture (default).
- 5: Audio :Turn on or off audio.(It has no relationship with system audio setup)
- 6: Close video.

Please refer to Figure 5-9 for main stream and extra stream switch information.

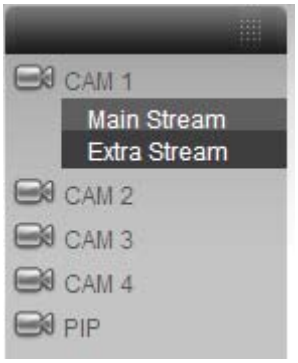


Figure 5-9

Open All

You can click it to open all channels.

Refresh

You can use button to refresh camera list.

Start Dialogue

You can click this button to enable audio talk. Click 【▼】 to select bidirectional talk mode. There are four options: DEFAULT，G711a，G711u and PCM.
Please note, the audio input port from the device to the client-end is using the first channel audio input port. During the bidirectional talk process, system will not encode the audio data from the 1-channel.

Local Play

The Web can playback the saved (Extension name is dav) files in the PC-end.
Click local play button, system pops up the following interface for you to select local play file. See Figure 5-10.

Figure 5-10

5.2.2 PTZ

Before PTZ operation, please make sure you have properly set PTZ protocol. (Please refer to chapter 5.3.2.8 Setting-> Pan/Tilt/Zoom).
Click PTZ button, the interface is shown as in Figure 5-11.

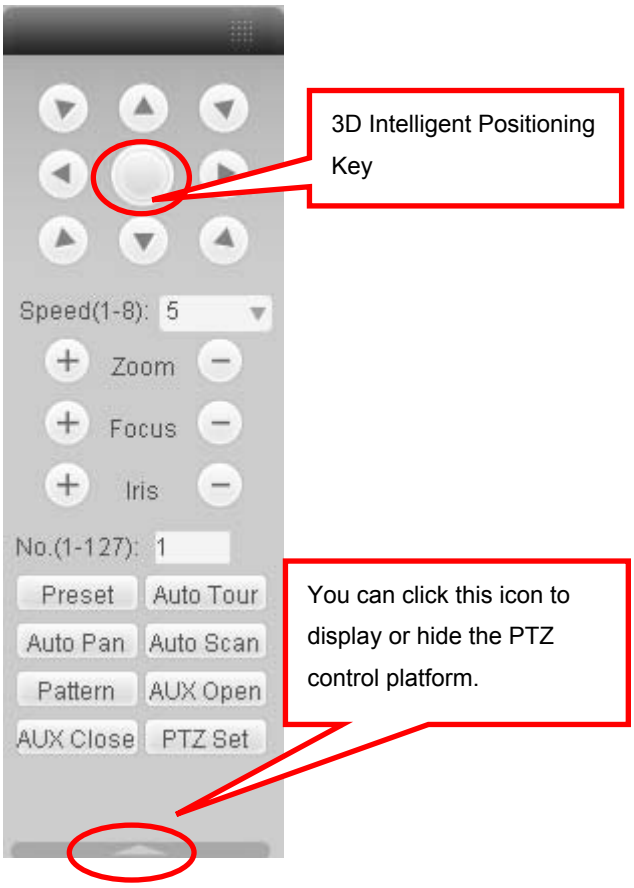


Figure 5-11

5.2.2.1 Direction key and 3D positioning key

In Figure 7-10, there are eight direction keys.

In the middle of the eight direction keys, there is a 3D intelligent positioning key.

Click 3D intelligent positioning key, system goes back to the single screen mode. Drag the mouse in the screen to adjust section size. It can realize PTZ automatically.

5.2.2.2 Speed

System supports eight-level speed. You can select from the dropdown list. Speed 2 is faster than speed 1.

5.2.2.3 Zoom/Focus/Iris

Here is a sheet for you reference.

Name	Function key	Function	Function key	Function
Zoom		Near		Far
Focus		Near		Far
Iris		close		Open

In Figure 5-11, click PTZ setup button you can see the following interface. See Figure 5-12.

Figure 5-12

5.2.2.4 Auto Scan

In Figure 5-12, move the camera to you desired location and then click left limit button. Then move the camera again and then click right limit button to set a right limit.

5.2.2.5 Pattern

In Figure 5-12, you can input pattern value and then click start record button to begin PTZ movement. Please go back to Figure 7-11 to implement camera operation. Then you can click stop record button. Now you have set one pattern.

5.2.2.6 Preset

In Figure 5-12, move the camera to your desired location and then input preset value. Click add button, you have set one preset.

5.2.2.7 Auto tour

In Figure 5-12, input auto tour value and preset value. Click add button, you have added one preset in the tour.

Repeat the above procedures you can add more presets in one tour.

5.2.2.8 Assistant

You can select the assistant item from the dropdown list. See Figure 5-13.

5.2.2.9 Matrix

This series product supports matrix extension function. You can control the video input and output switch

5.2.2.10 Light and wiper

If your PTZ protocol supports the light and wiper control function. You can enable/disable the light or the wiper.

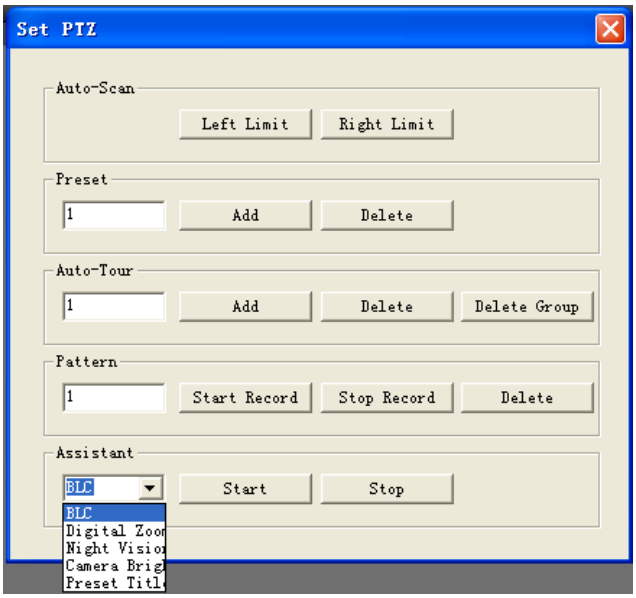


Figure 5-13

5.2.3 Color

Click color button in section 3, the interface is shown as Figure 5-14.

Here you can select one channel and then adjust its brightness, contrast, hue and saturation. (Current channel border becomes green).

Or you can click default button to use system default setup.

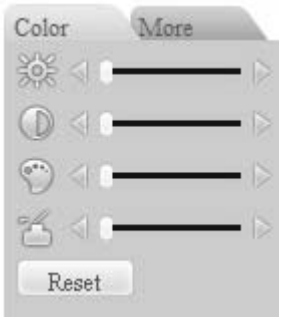


Figure 5-14

5.2.4 Picture Path and Record Path

Click more button in Figure 5-14, you can see an interface is shown as in Figure 5-15.

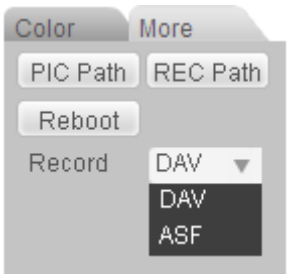


Figure 5-15

Click the record item; you can see there are two options: DAV/ASF.

Click picture path button, you can see an interface is shown as in Figure 5-16.

Please click choose button to modify path.

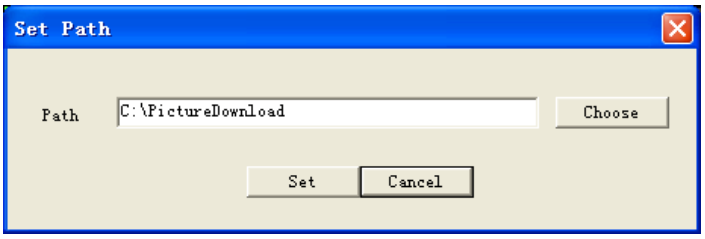


Figure 5-16

Click record path button, you can see an interface is shown as in Figure 5-17.
Please click choose button to modify path.

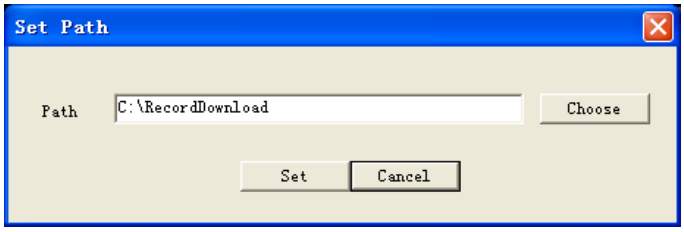


Figure 5-17

Click reboot button, system pops up the following dialogue box. See Figure 5-18.
Please click OK to reboot.

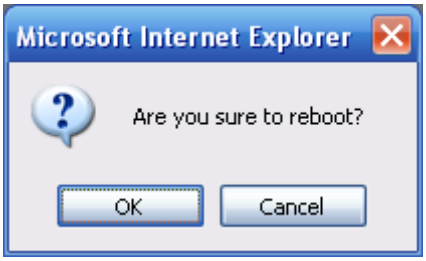


Figure 5-18

If there is local use logged in the system menu, or the Web logged in user has no right to reboot the device system pops up a dialogue box to alert you.

5.3 Configure

5.3.1 System Information

5.3.1.1 Version Information

Here you can view device hardware feature and software version information. See Figure 5-19.

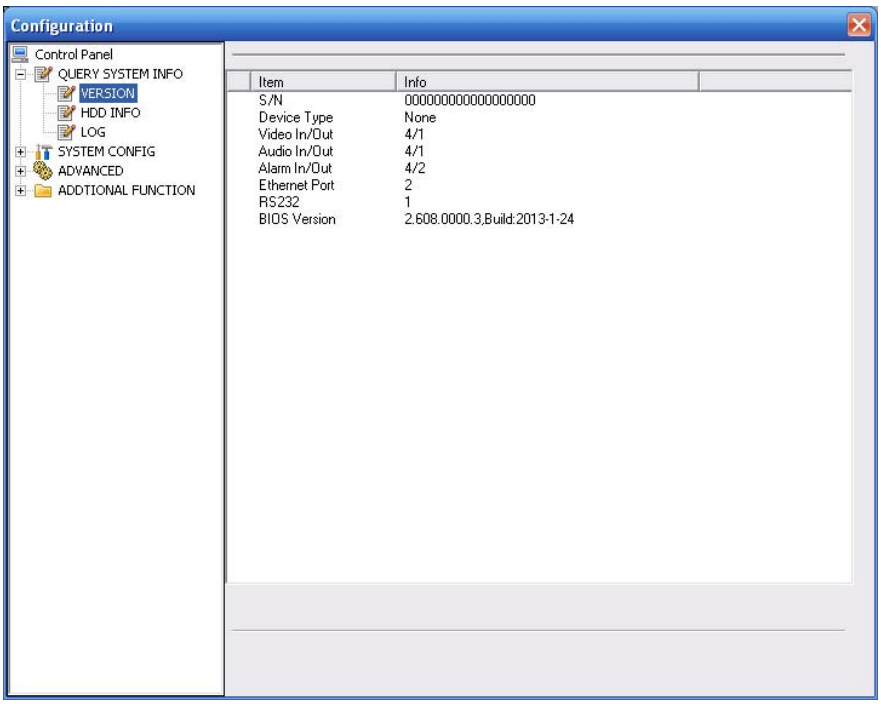


Figure 5-19

5.3.1.2 HDD information

Here you can view local storage status and network status including, free capacity and total capacity. See Figure 5-20.

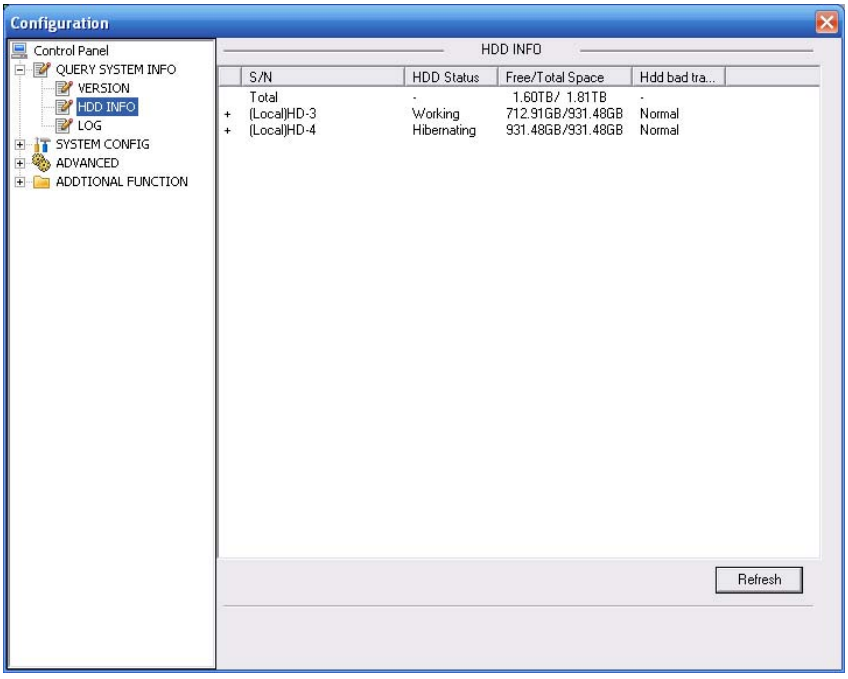


Figure 5-20

5.3.1.3 Log

Here you can view system log. See Figure 5-21.

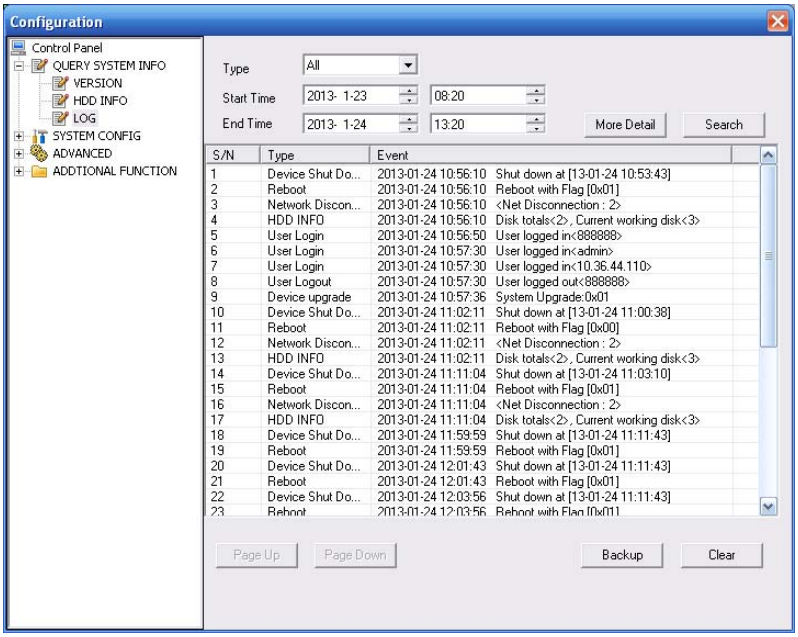


Figure 5-21

Click backup button, the interface is shown as in Figure 5-22.

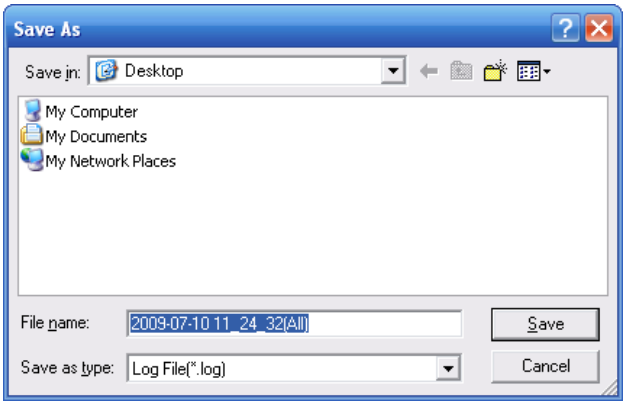


Figure 5-22

Please refer to the following sheet for log parameter information.

Parameter	Function
Type	Log types include: system operation, configuration operation, data management, alarm event, record operation, user management, log clear and file operation.
Search	You can select log type from the drop down list and then click search button to view the list.
Start time	Please input start time here.
End time	Please input the end time here.
Clear	You can click this button to delete all displayed log files. Please note system does not support clear by type.
More details	Select one item and click this button, you can view the detailed log information.
Backup	You can click this button to backup log files to current PC.

5.3.2 System Configuration

Please click save button to save your current setup.

5.3.2.1 General Setup

Here you can set system time, record length, video format and etc. See Figure 5-23.

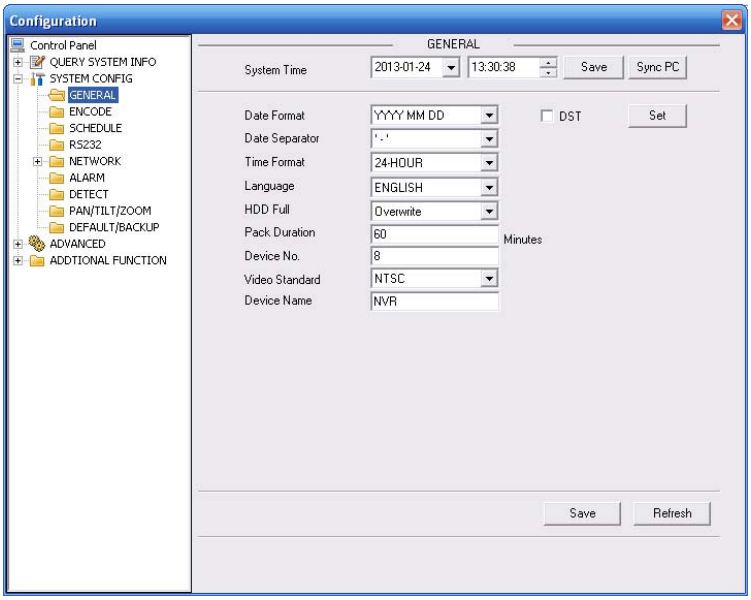


Figure 5-23

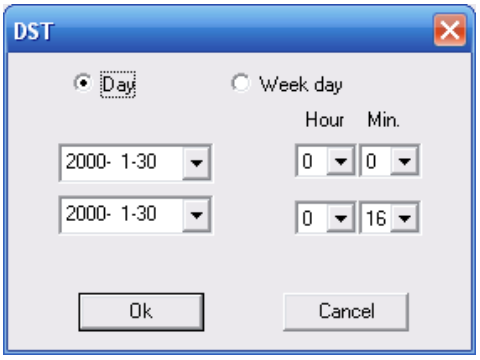


Figure 5-24

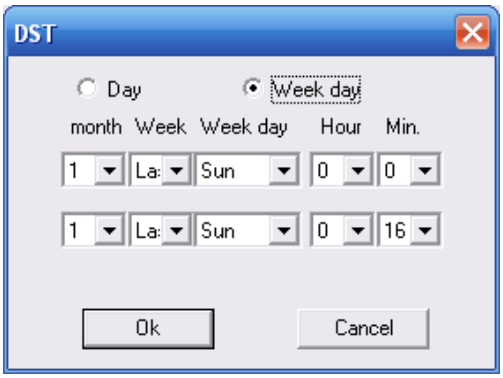


Figure 5-25

Please refer to the following sheet for detailed information.

Parameter	Function
System Time	Here is for you to modify system time. Please click Save button after your completed modification

Sync PC	You can click this button to save the system time as your PC current time.
Data Format	Here you can select data format from the dropdown list.
Data Separator	Please select separator such as – or /.
Time Format	There are two options: 24-H and 12-H.
DST	Here you can set day night save time begin time and end time. See Figure 5-24 and Figure 5-25.
Language	You can select the language from the dropdown list. Device needs to reboot to get the modification activated.
HDD Full	There are two options: stop recording or overwrite the previous files when HDD is full. When current working HDD is overwriting or it is full now, system stops record. If current working HDD is full now, system goes to overwrite the previous file.
Pack Duration	Here you can select file size. The value ranges from 1 to 120.Default setup is 60 minutes.
Video Standard	There are two items: PAL/NTSC. Please note this information is for reference only. You can not modify.
Device Name	Please input the corresponding device name here.

5.3.2.2 Encode

Encode interface is shown as in Figure 7-29.

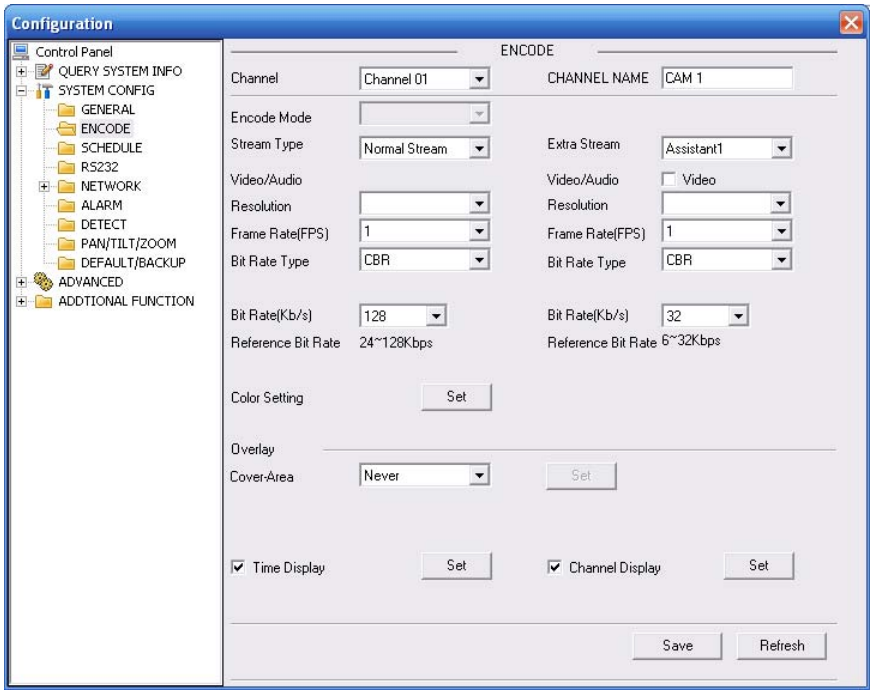


Figure 5-26

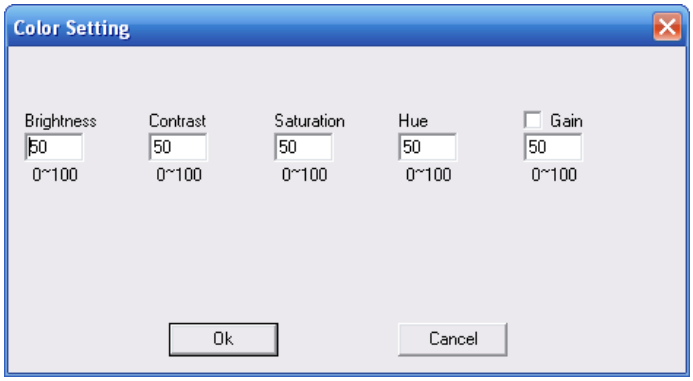


Figure 5-27

Please refer to the following sheet for detailed information.

Parameter	Function
Channel	Here is for you to select a monitor channel.
Channel Name	Here is to display current channel name. You can modify it.
Encode Mode	System supports H.264.
Main Stream	It includes main stream, motion stream and alarm stream. You can select different encode frame rates form different recorded events. System supports active control frame function (ACF). It allows you to record in different frame rates. For example, you can use high frame rate to record important events, record scheduled event in lower frame rate and it allows you to set different frame rates for motion detection record and alarm record.
Extra Stream	Select extra stream if you enabled the extension stream to monitor.
Audio/Video	For the main stream, recorded file only contains video by default. You need to draw a circle here to enable audio function. For extra stream, you need to draw a circle to select the video first and then select the audio if necessary.
Resolution	System supports various resolutions, you can select from the dropdown list. The main stream max supports 1080P and the extra stream max supports D1.
Frame Rate	PAL：1～25f/s；NTSC：1～30f/s.
Bit Rate Type	There are two options: VBR and CBR. Please note, you can set video quality in VBR mode only.
Quality	The value ranges from 1 to 6. The level 6 is the best video quality.
Bit Rate	• In CBR, the bit rate here is the max value. In dynamic video, system needs to low frame rate or video quality to guarantee the value. • The value is null in VBR mode. • Please refer to recommend bit rate for the detailed information.
Recommended Bit	Recommended bit rate value according to the resolution and frame rate you have set.

Parameter	Function
Color Setting	Here you can set video brightness, contrastness, hue, saturation and gain. The value ranges from 0 to 100.Default value is 50. See Figure 5-27. Please note, some series devices do not support OSD transparent setup function.
Cover area (privacy mask)	• Here you can privacy mask the specified video in the monitor video. • One channel max supports 4 privacy mask zones. • The privacy mask includes two options: Never/monitor. Never: It means do not enable privacy mask function. Monitor: the privacy mask zone can not be viewed in monitor mode.
Time Title	• You can enable this function so that system overlays time information in video window. • You can use the mouse to drag the time tile position.
Channel Title	• You can enable this function so that system overlays channel information in video window. • You can use the mouse to drag the channel tile position.
Save	You can click save button after you complete setup for one channel, or you can complete the whole setups and then click save button.
Refresh	Click this button to get device latest configuration information.

Click copy interface, the interface is shown as in Figure 5-28.

If you have completed the setup for channel 1, you can click 3 to copy current setup to channel 3.

Or you can click 2, 3, and 4 to copy current setup to channel 2, channel 3 and channel 4.

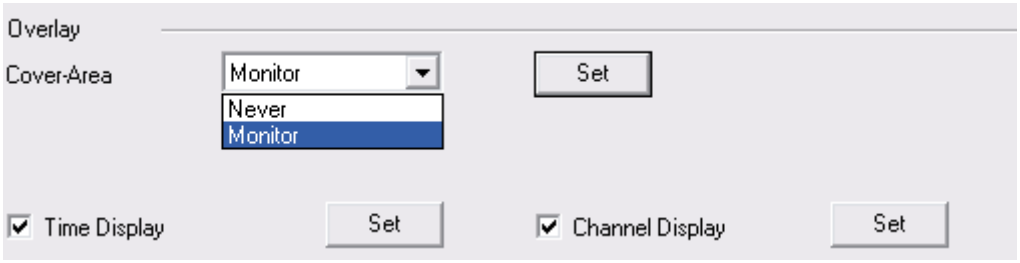


Figure 5-28

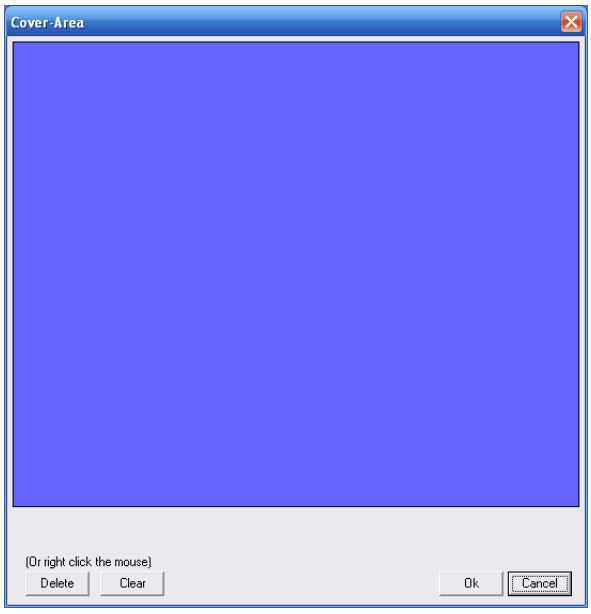


Figure 5-29

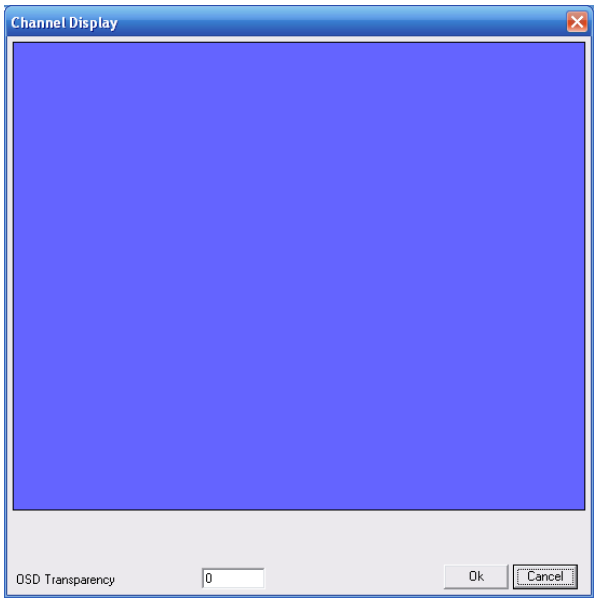


Figure 5-30

5.3.2.3 Schedule

Here you can set different periods for various days. There are max six periods in one day. See Figure 5-31.

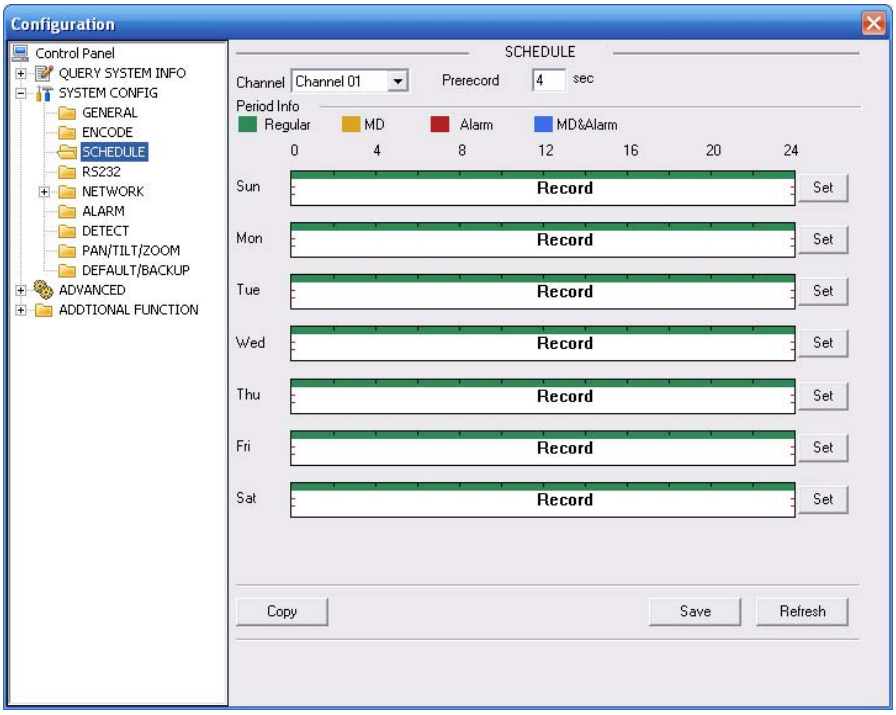


Figure 5-31

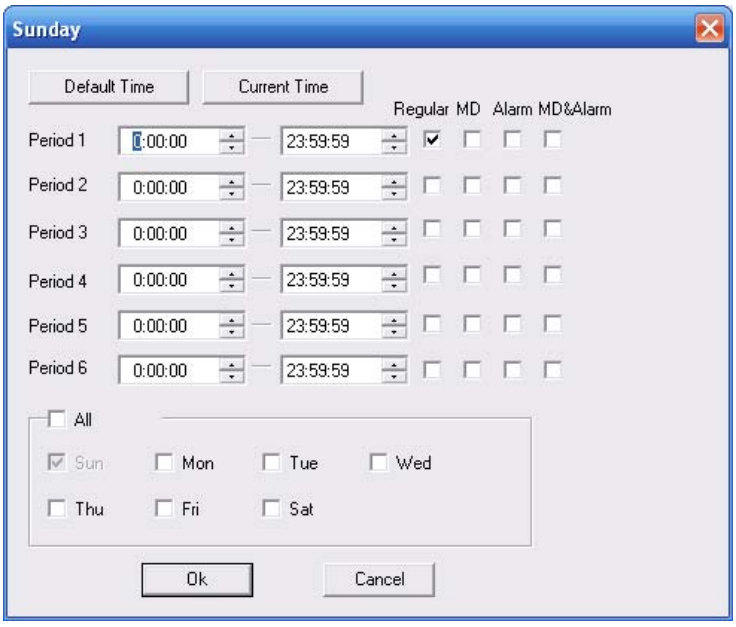


Figure 5-32

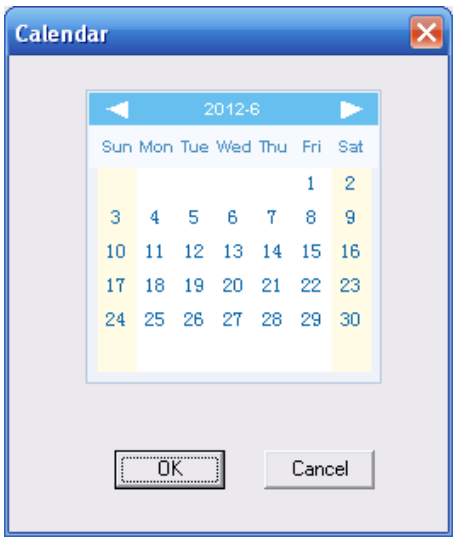


Figure 5-33

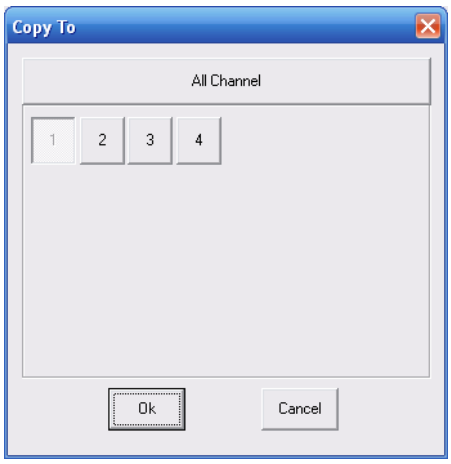


Figure 5-34

Please refer to the following sheet for detailed information.

Parameter	Function
Channel	Please select a channel first.
Pre-record	Please input pre-record value here. System can record the three to five seconds video before activating the record operation into the file. (Depends on data size).
Setup	• In Figure 5-31, click set button, you can go to the corresponding setup interface. See Figure 5-32. • Please set schedule period and then select corresponding record or snapshot type: schedule/snapshot, motion detection/snapshot, and alarm/snapshot. • Please select date (Current setup applies to current day by default. You can draw a circle before the week to apply the setup to the whole week.) • After complete setup, please go back to Figure 5-31 and then click save to save current time period setup.

Parameter	Function
Holiday	Click Set button, system pops up a dialogue box shown as in Figure 5-33. Here you can set holiday date. Check the box, it means current chann shall record as your holiday setup. Please go to the Period interface t set the holiday date record setup.
Copy	It is a shortcut menu button. You can copy current channel setup to one or more (all) channels. The interface is shown as in Figure 5-34.
Save	You can click save button after you complete setup for one channel, or you can complete the whole setups and then click save button.
Refresh	Click this button to get device latest configuration information.

5.3.2.4 RS232

The RS232 interface is shown as in Figure 5-35.

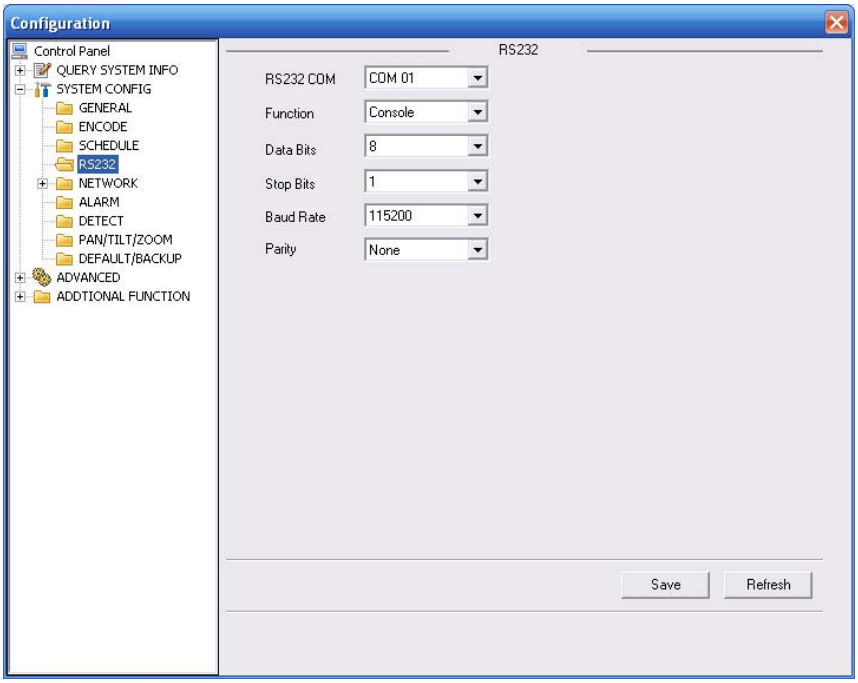


Figure 5-35

Please refer to the following sheet for detailed information.

Parameter	Function
RS232	There are two options: COM 01 and keyboard.
Function	Console is to upgrade the program or debug via COM or mini terminal software.
	Keyboard: COM control protocol. You can use keyboard to control NVR via COM.
Data Bit	The value ranges from 5 to 8.
Stop Bit	There are three options: 1/2.
Baud Bit	You can select corresponding baud bit here.

Parameter	Function
Parity	There are five options: none/odd/even/space/mark.

System default setup is:

- Function: Console.
- Data bit: 8
- Stop bit: 1
- Baud bit: 115200
- Parity: None.

5.3.2.5 Network

Network interface is shown as in Figure 5-36.

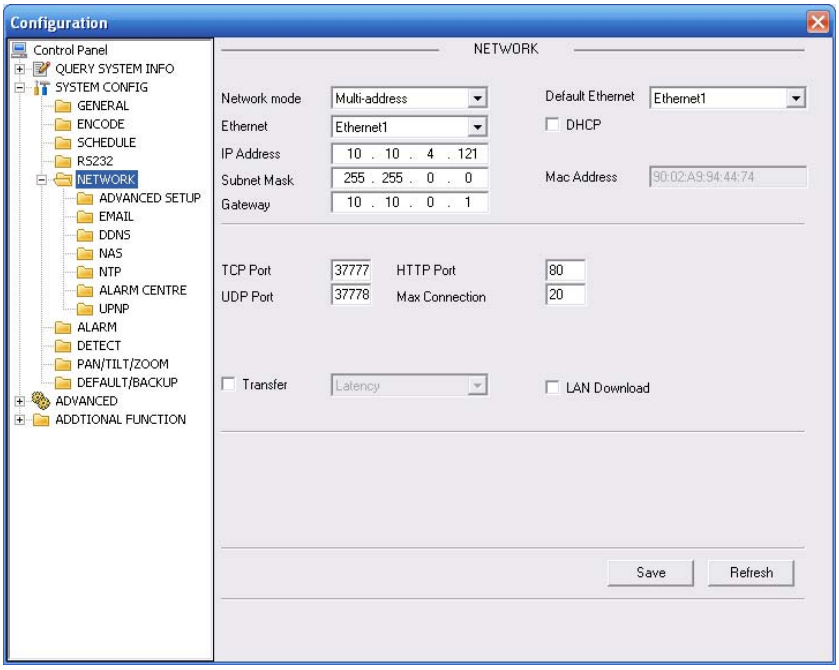


Figure 5-36

Please refer to the following sheet for detailed information.

Parameter	Function
Network Mode	Includes multiple access, fault tolerance, and load balancing
Default Network Card	Please select eth0/eth1/bond0(optional) after enable multiple access function
Ethernet	Please select eth0/eth1(optional).after enable multiple access function.
TCP Port	Default value is 37777.
HTTP Port	Default value is 554.
UDP Port	Default value is 37778.
Max Connection	Network user max amount. The value ranges from 0 to 20. O means there is no user can access current device.

- Advanced

The advanced interface is shown as in Figure 5-37.

- Multiple cast

Please refer to chapter 5.3.5.3 for detailed multiple cast setup information.

- PPPoE

Please input the PPPoE user name and password you get from the IPS (internet service provider) and enable PPPoE function. Please save current setup and then reboot the device to get the setup activated.

Device connects to the internet via PPPoE after reboot. You can get the IP address in the WAN from the IP address column.

Note:

After PPPoE successful dial, you need to go to the device local end to get device current IP address and then use the client-end to access this IP address.

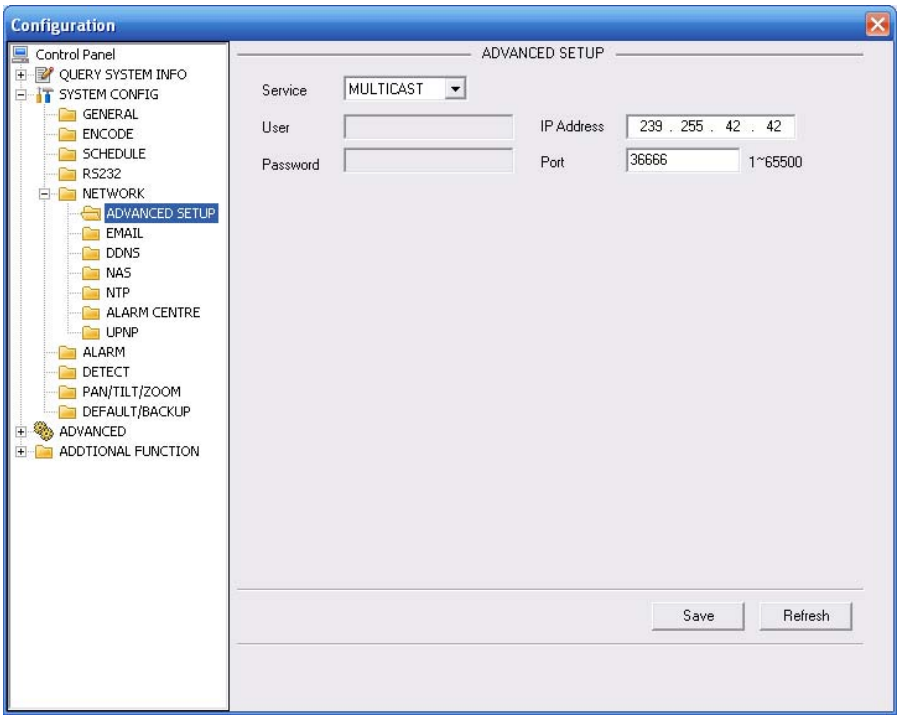


Figure 5-37

Email

The email interface is shown as in Figure 5-38.

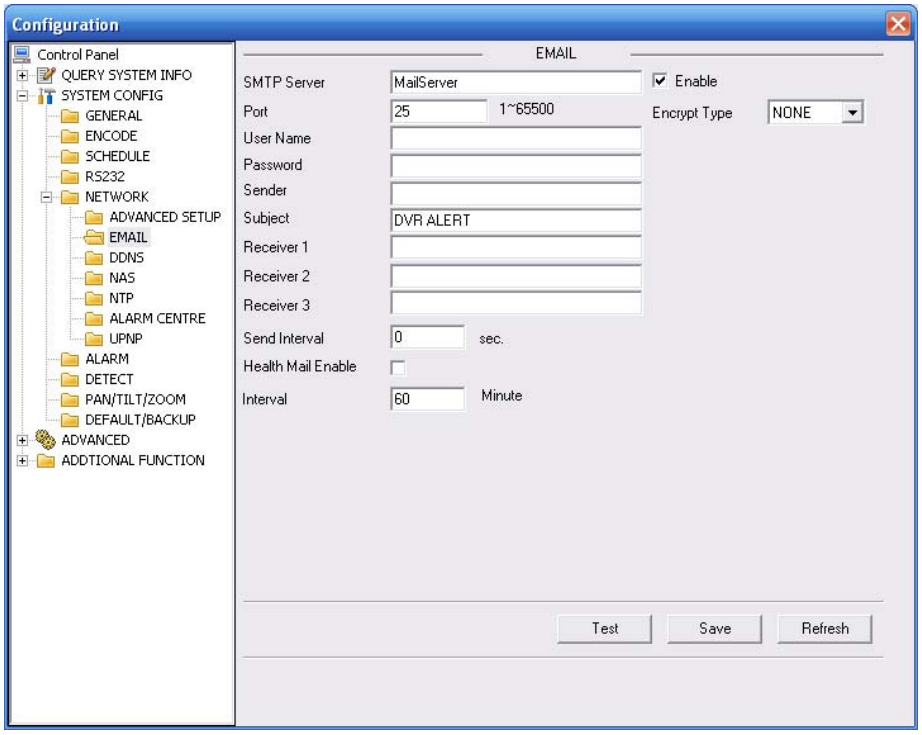


Figure 5-38

Please refer to the following sheet for detailed information.

Parameter	Function
SMTP Server	Input server address and then enable this function.
Port	Input port value here.
User Name	The sender email account user name.
Password	The sender email account password.
Sender	Sender email address.
Subject	Input email subject here. Max 32-digit.
Address	Input receiver email address here. Max input three addresses. Support SSL TLS encryption mailbox.
Health mail enable	Please check the box here to enable this function. This function allows the system to send out the test email to check the connection is OK or not.
Health mail interval	Please check the above box to enable this function and then set the corresponding interval. System can send out the email regularly as you set here.

DDNS

The DDNS interface is shown as in Figure 5-39.

Please make sure your NVR support this function.

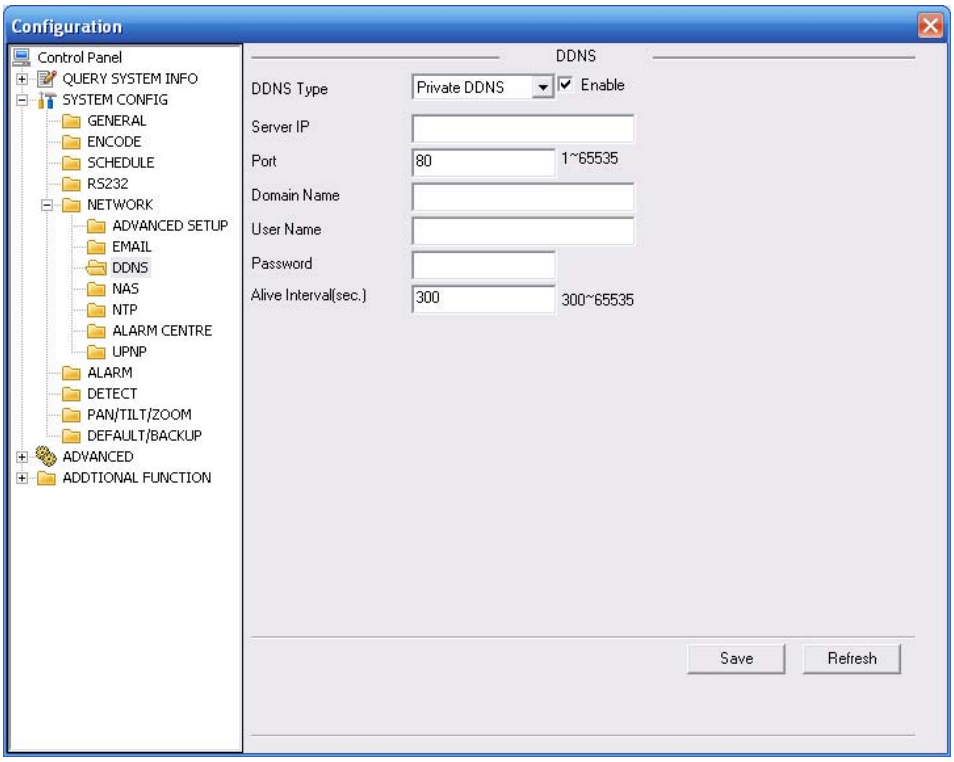


Figure 5-39

Please refer to the following sheet for detailed information.

Parameter	Function
Server Type	You can select DDNS protocol (Multiple-choice) from the dropdown list and then enable DDNS function.
Server IP	DDNS server IP address
Server Port	DDNS server port.
Domain Name	Your self-defined domain name.
User	The user name you input to log in the server.
Password	The password you input to log in the server.
Interval	• Device sends out alive signal to the server regularly. • You can set interval value between the device and DDNS server here.

NAS

NAS interface is shown as in Figure 5-40.

Please make sure your NVR support this function.

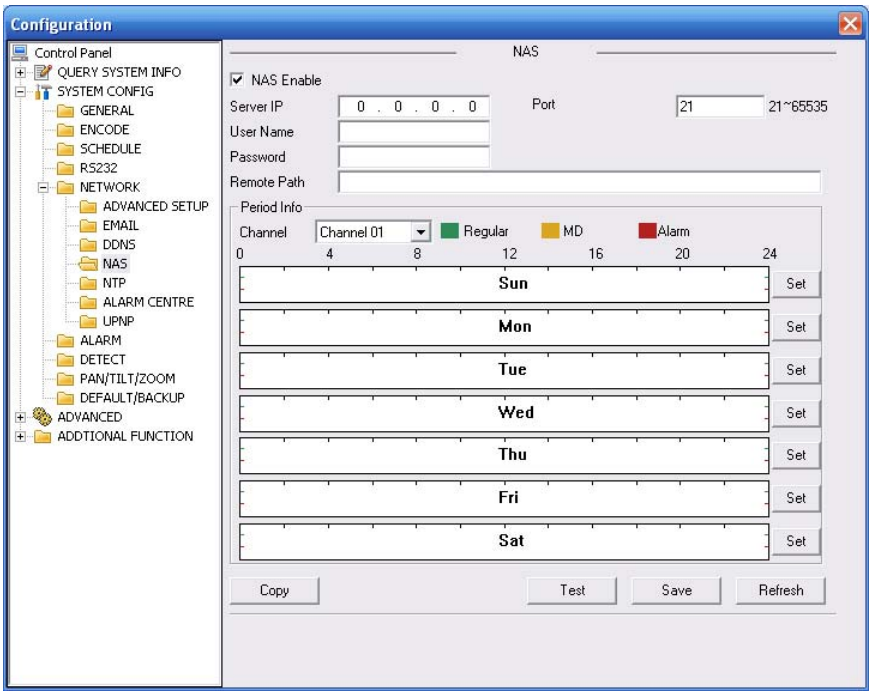


Figure 5-40

Please refer to the following sheet for detailed information.

Parameter	Function
NAS enable	Please select network storage protocol and then enable NAS function.
Server IP	Input remote storage server IP address.
Port	Input Remote storage server port number.
User Name	Log in user account.
File length	The file length you upload to the FTP. When setup is larger than the actual file length, system will upload the whole file. When setup here is smaller than the actual file length, system only uploads the set length and auto ignore the left section. When interval value is 0, system uploads all corresponding files.
Password	The password you need to log in the server.
Remote Path	Remote storage file path.
Save	You can click save button after you complete setup for one channel, or you can complete the whole setups and then click save button.
Refresh	Click this button to get device latest configuration information.

NTP

The NTP interface is shown as in Figure 5-41.

Here you can realize network time synchronization. Please enable current function and then input server IP, port number, time zone and update interval. Please note the SNTP supports TCP transmission only and its port shall be 123.The update interval ranges from 1 to 65535. Default value is 10 minutes.

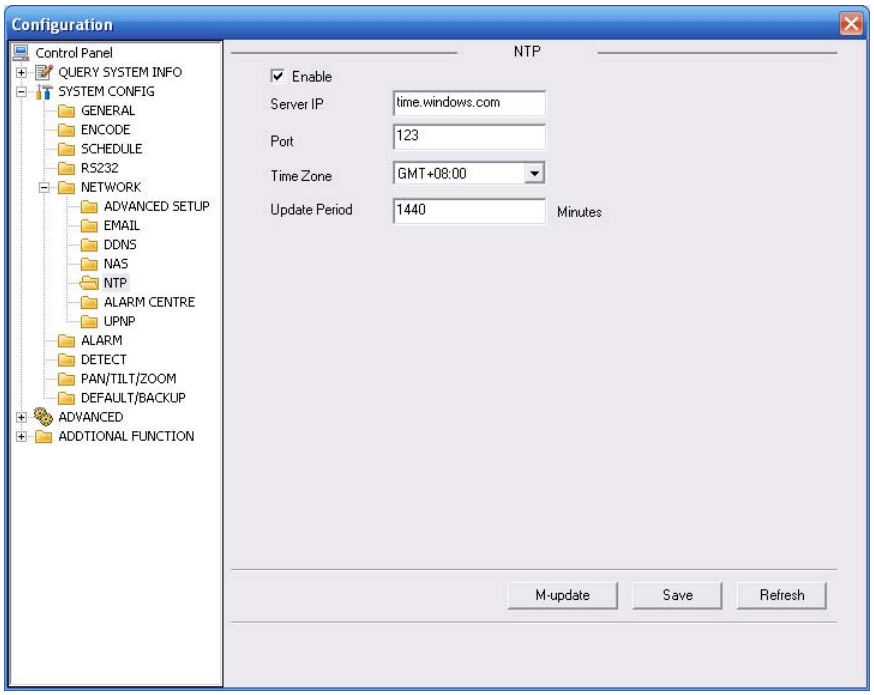


Figure 5-41

You can refer to the following sheet for time zone information.

City /Region Name	Time Zone
London	GMT+0
Berlin	GMT+1
Cairo	GMT+2
Moscow	GMT+3
New Deli	GMT+5
Bangkok	GMT+7
Beijing (Hong Kong)	GMT+8
Tokyo	GMT+9
Sydney	GMT+10
Hawaii	GMT-10
Alaska	GMT-9
Pacific Time(P.T)	GMT-8
American Mountain Time(M.T)	GMT-7
American Central Time(C.T)	GMT-6
American Eastern Time(E.T)	GMT-5
Atlantic Time	GMT-4
Brazil	GMT-3
Middle Atlantic Time	GMT-2

Alarm Centre

Alarm centre interface is shown as below. See Figure 5-42.

This interface is for you to develop. The alarm signal can be uploaded to the alarm centre when there is local alarm.

Please set the corresponding parameters such as server IP, port and etc.

The system can send out the data as the protocol defined to the client-end.

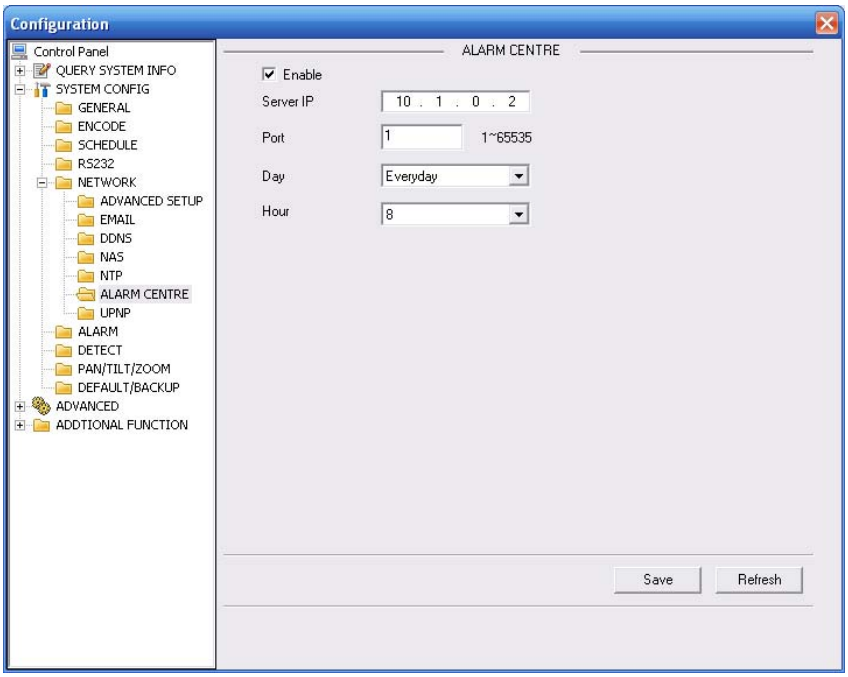


Figure 5-42

UNPN

Go to the UPnP interface, you can see an image is shown as in Figure 5-43.

It allows you to establish the mapping relationship between the LAN and the public network.

Here you can also add, modify or remove UPnP item.

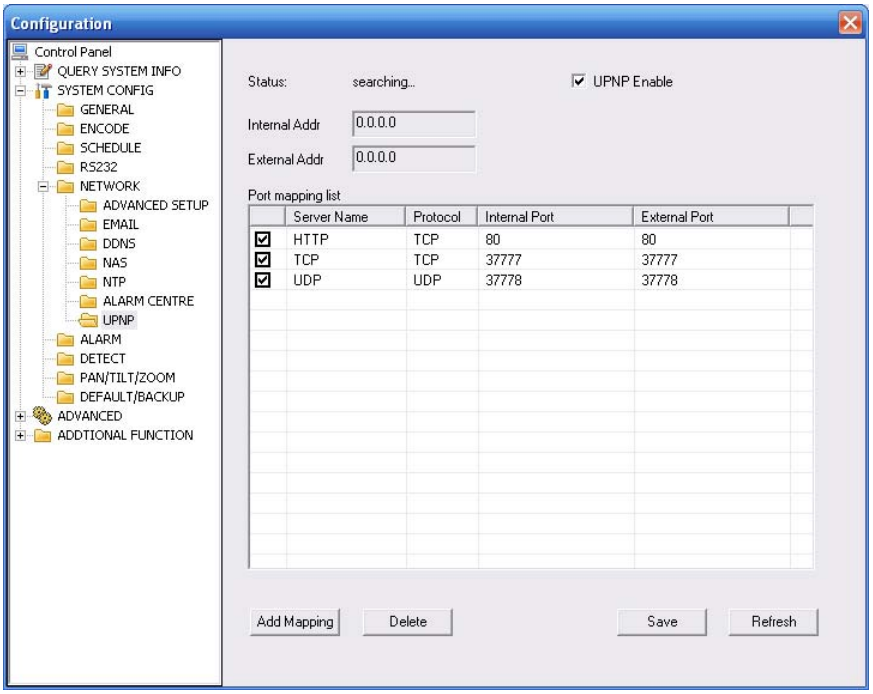


Figure 5-43 UNPN

5.3.2.6 Alarm

Alarm setup interface is shown as in Figure 5-44.

Please make sure you have connected the corresponding alarm output device such as the light, buzzer and etc.

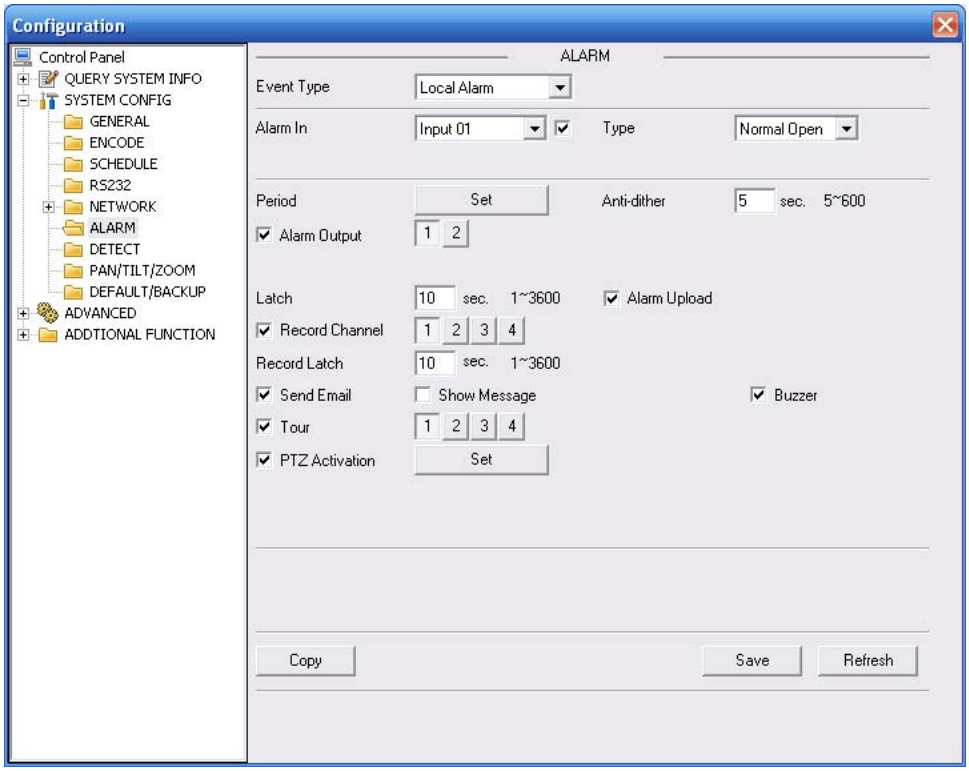


Figure 5-44

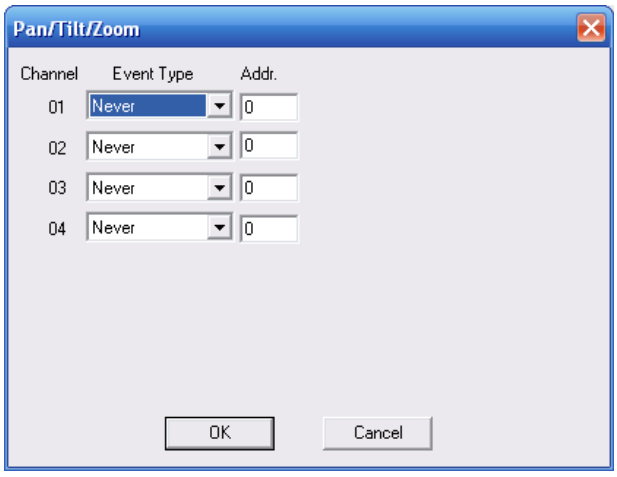


Figure 5-45

Please refer to the following sheet for detailed information.

Parameter	Function
Event Type	It includes local alarm/network alarm. Local alarm: Device detects alarm from input port. Network: Device detects alarm from network.
Alarm in	Select corresponding alarm channel.
Enable	You need to draw a circle here so that system can detect the alarm signal.
Type	There are two options: normal open and normal close. NO becomes activated in low voltage, NC becomes activated in high voltage.

Parameter	Function
Period	Alarm record function becomes activated in the specified periods. There are six periods in one day. Please draw a circle to enable corresponding period. Select date. If you do not select, current setup applies to today only. You can select all week column to apply to the whole week. Click OK button, system goes back to alarm setup interface, please click save button to exit.
Anti-dither	System only memorizes one event during the anti-dither period. The value ranges from 3 to 600s.
Normal Out	Enable alarm activation function. You need to select alarm output port so that system can activate corresponding alarm device when alarm occurred.
Alarm Latch	System can delay the alarm output for specified time after alarm ended. The value ranges from 1 second to 300 seconds.
Show message	System pops up the alarm messages in the monitor interface.
Buzzer	Once you check the box here, the buzzer beeps when an alarm occurred.
Alarm upload	System can upload the alarm signal to the centre (Including alarm centre.
Record Channel	System auto activates current channel to record once alarm occurs (working with alarm activation function). Please note current device shall be in auto record mode (Chapter 5.3.2.3 Schedule).
Record Latch	System can delay the record for specified time after alarm ended. The value ranges from 10s to 300s.
Email	Please draw a circle to enable email function. System can send out email to alert you when alarm occurs and ends.
Tour	Display the selected video in local monitor window. Tour interval and tour mode are set in NVR local menu (chapter 5.3.9 Display)
PTZ activation	Here you can set PTZ movement when alarm occurs. Such as go to preset x when there is an alarm. The PTZ configuration events include preset, tour, and pattern.
Capture	You need to input capture channel number so that system can backup snapshot file when alarm occurs.
Copy	It is a shortcut menu button. You can copy current channel setup to one or more (all) channels.
Save	You can click save button after you complete setup for one channel, or you can complete the whole setups and then click save button.
Refresh	Click this button to get device latest configuration information.

5.3.2.7 Detect

Analysis the video, system enable motion detection alarm when it detects the motion signal reached the specified sensitivity.

The detection interface is shown as in Figure 5-46.

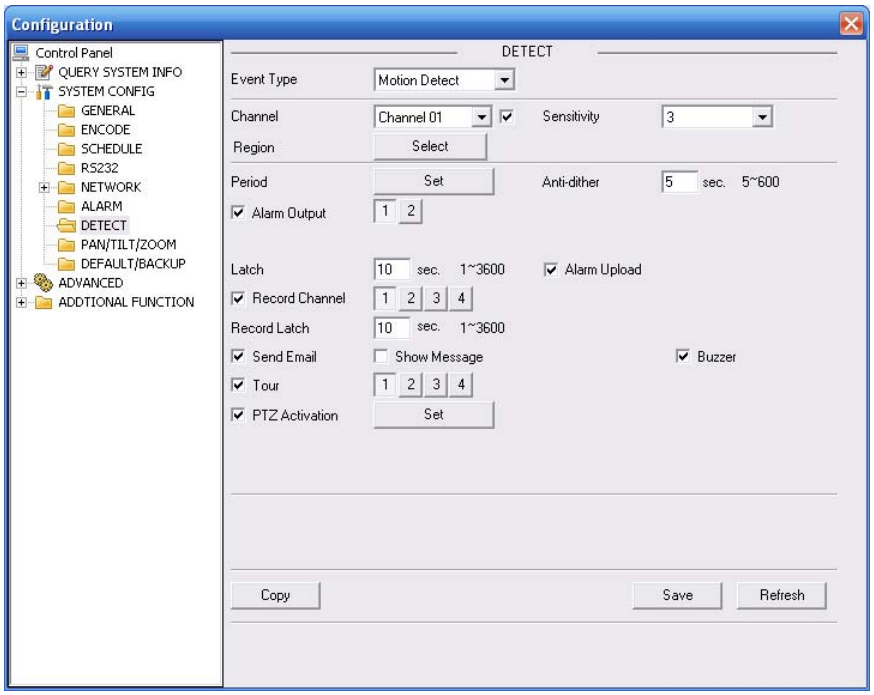


Figure 5-46

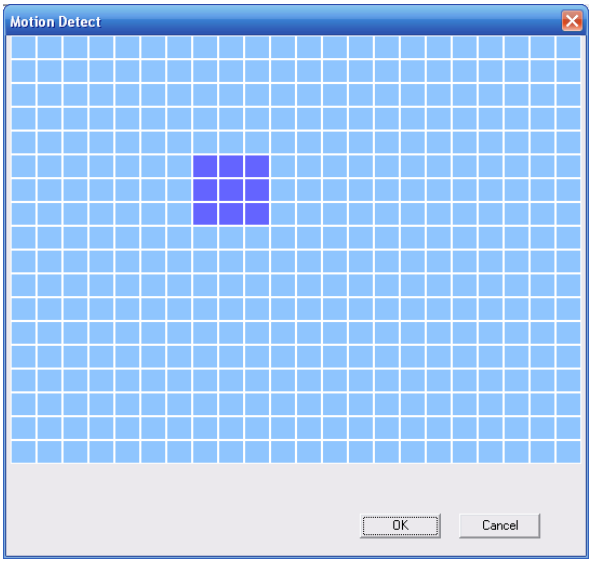


Figure 5-47

Please refer to the following sheet for detailed information.

Parameter	Function
Event Type	There are three types: Motion detection/video loss/Camera Masking.
Channel	Select channel name from the dropdown list.
Enable	You need to draw a circle to enable motion detection function.
Sensitivity	There are six levels. The sixth level has the highest sensitivity.

Parameter	Function
Region	• There are six levels. The sixth level has the highest sensitivity. • Region: If you select motion detection type, you can click this button to set motion detection zone. The interface is shown as in Figure 5-47. There are PAL 22X18/NTSC 22X15 zones. Right click mouse you can go to full-screen display mode. Do remember clicking OK button to save your motion detection zone setup.
Period	• Motion detection function becomes activated in the specified periods. • There are six periods in one day. Please draw a circle to enable corresponding period. • Select date. If you do not select, current setup applies to today only. You can select all week column to apply to the whole week. • Click OK button, system goes back to motion detection interface; please click save button to exit.
Anti-dither	System only memorizes one event during the anti-dither period. The value ranges from 3s to 600s.
Normal out	• There is 2-channel alarm output. • Corresponding to motion detection alarm output port(multiple choices) • Enable alarm activation function. You need to select alarm output port so that system can activate corresponding alarm device when alarm occurs.
Alarm latch	System can delay the alarm output for specified time after alarm end The value ranges from 1s to 300s.
Show message	System pops up the alarm messages in the monitor interface.
Buzzer	Once you check the box here, the buzzer beeps when an alarm occurred.
Alarm upload	System can upload the alarm signal to the centre (Including alarm centre.
Record channel	System auto activates motion detection channel (multiple choices) to record once alarm occurs (working with motion detection function). Please note you need to go to Chapter 5.3.2.3 Schedule to set motion detection record period and go to chapter 5.3.3.4 Record to set current period as auto record.
Record latch	System can delay the record for specified time after alarm ended. The value ranges from 10s to 300s.
Email	If you enabled this function, System can send out email to alert you when alarm occurs and ends.
Tour	• Display the selected video in local monitor window. • Tour interval and tour mode are set in NVR local menu (chapter 5.3.9 Display)
PTZ Activation	• Here you can set PTZ movement when alarm occurs. Such as go to preset x when there is an alarm.
Capture	You need to input capture channel number so that system can backup motion detection snapshot file.

Parameter	Function
Matrix Enable	Please note this function is valid in motion detect mode. Check the box here to enable video matrix function. Right now system supports one-channel tour function. System takes “first come and first serve” principle to deal with the activated tour. System will process the new tour when a new alarm occurs after previous alarm ended. Otherwise it restores the previous output status before the alarm activation.
Copy	It is a shortcut menu button. You can copy current channel setup to one or more (all) channels.
Save	You can click save button after you complete setup for one channel, or you can complete the whole setups and then click save button.
Refresh	Click this button to get device latest configuration information.

5.3.2.8 PTZ

PTZ interface is shown as in Figure 5-48.

Please note, before operation please make sure you have set speed dome address. And NVR and speed dome connection is OK.

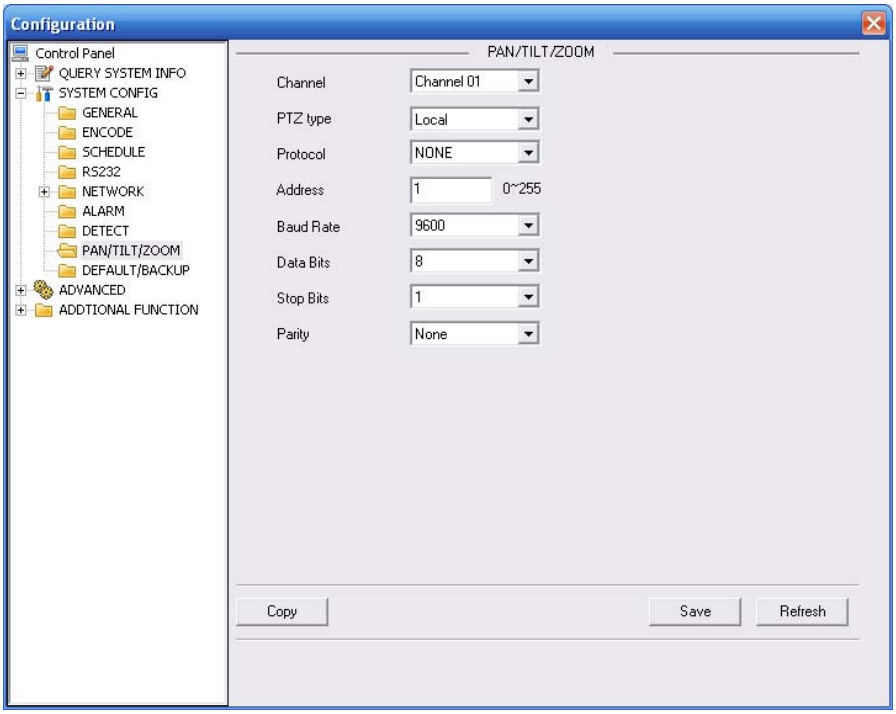


Figure 5-48

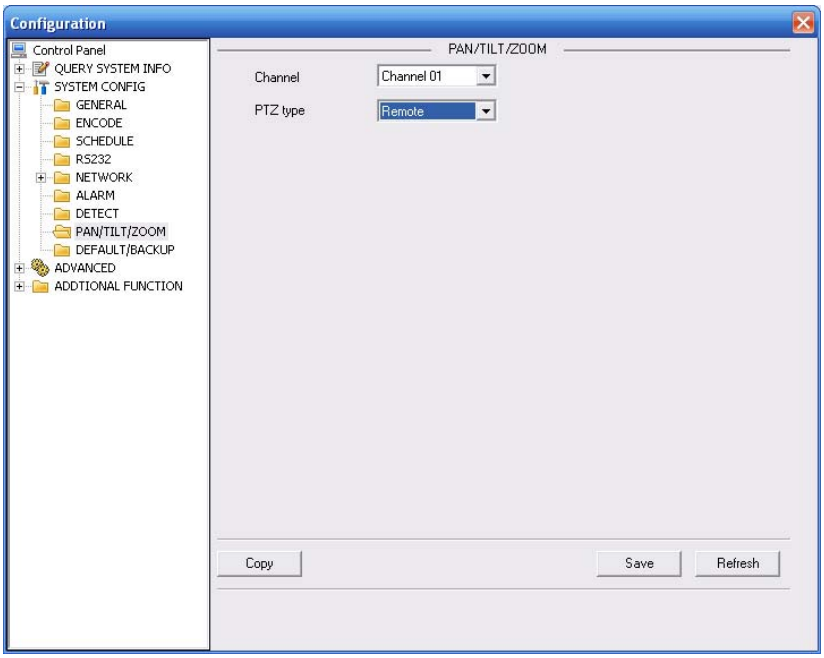


Figure 5-49

Please refer to the following sheet for detailed information.

Parameter	Function
Channel	You can select monitor channel from the dropdown list.
PTZ type	There are two items: local/remote.
Protocol	Select the corresponding dome protocol.(such as PELCOD)
Address	Set corresponding dome address. Default value is 1. Please note your setup here shall comply with your dome address; otherwise you can not control the speed dome.
Baud Rate	Select the dome baud rate. Default setup is 9600.
Data Bit	Default setup is 8. Please set according to the speed dome dial switch setup.
Stop bit	Default setup is 1. Please set according to the speed dome dial switch setup.
Parity	Default setup is none. Please set according to the speed dome dial switch setup.
Save	You can click save button after you complete setup for one channel, or you can complete the whole setups and then click save button.
Refresh	Click this button to get device latest configuration information.

5.3.2.9 Default & Backup

Default: Restore factory default setup. You can select corresponding items.

Backup: Export current configuration to local PC or import configuration from current PC.

Please refer to Figure 5-50.

Please note system can not restore some information such as network IP address.

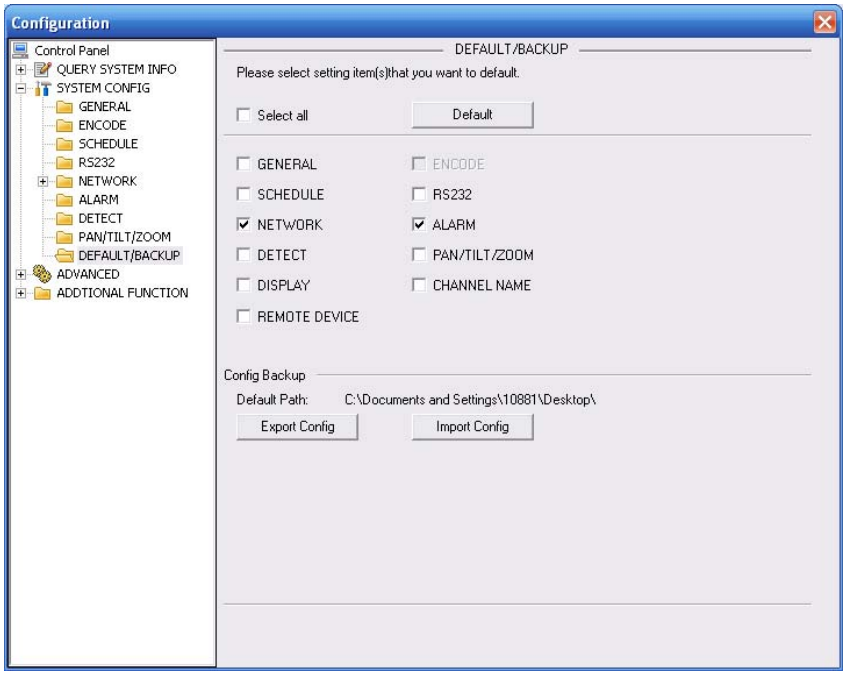


Figure 5-50

Please refer to the following sheet for detailed information.

Parameter	Function
Select All	Restore factory default setup.
Export Configuration	Export system configuration to local PC.
Import Configuration	Import configuration from PC to the system.

5.3.3 Advanced

5.3.3.1 HDD Management

HDD management includes net storage management and local storage management.

Please note, if you want to use local storage function, your storage device need to support current function.

Please select the storage device first and then you can see the items on your right become valid. You can check the corresponding item here. See Figure 5-51.

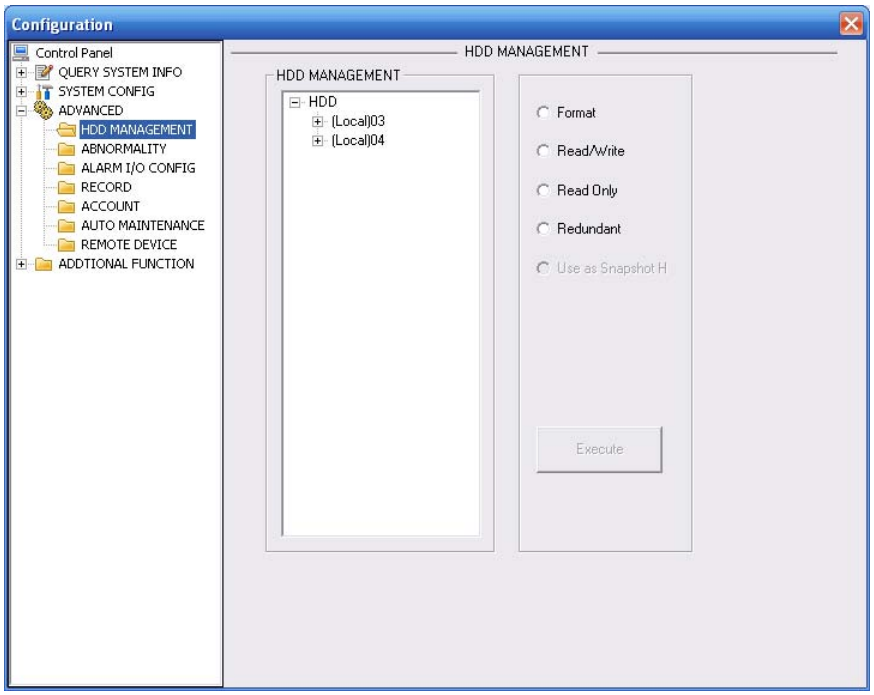


Figure 5-51

Please refer to the following sheet for detailed information.

Parameter	Function
Format	Clear data in the disk.
Read/write	Set current disk as read/write
Read only	Set current disk as read.
Redundant	Set current disk as redundant disk.
Recover	Recover dada after error occurs.
Use as snapshot	Set current disk as snapshot disk.

Please note system needs to reboot to activate current setup.

5.3.3.2 Abnormality

The abnormality interface is shown as below. See Figure 5-52.

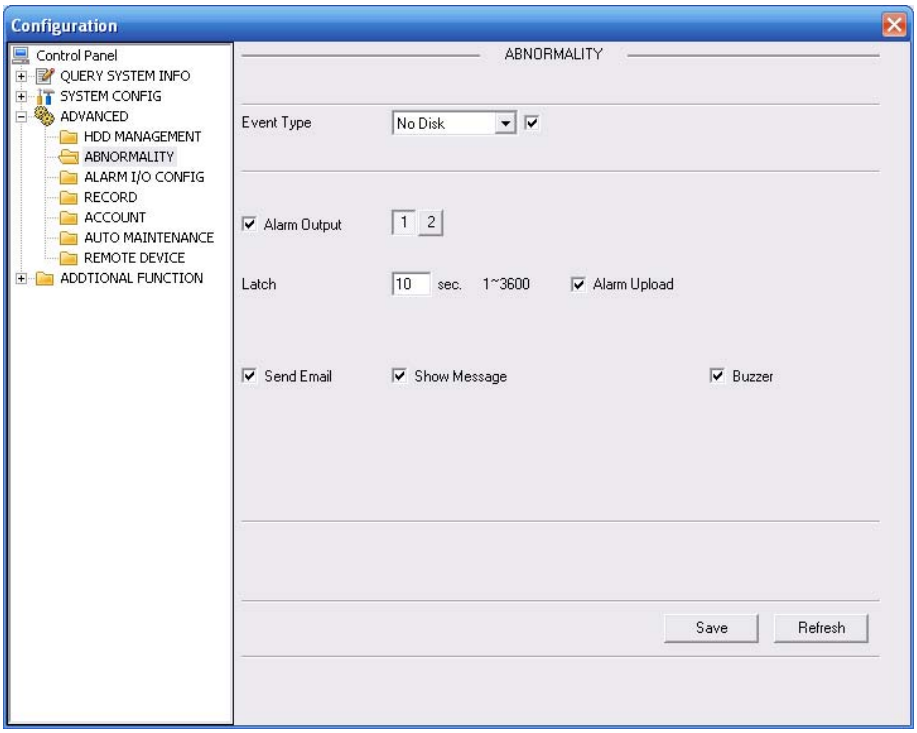


Figure 5-52

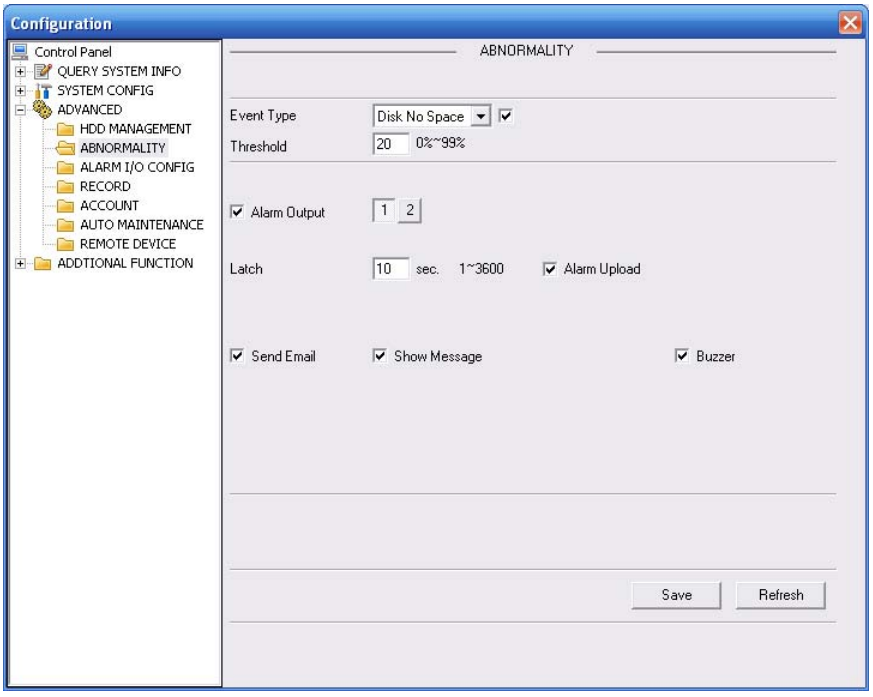


Figure 5-53

Please refer to the following sheet for detailed information.

Parameter	Function
Event Type	• The abnormal events include: disk error, no disk, disconnection, IP conflict, MAC conflict and etc • You need to draw a circle to enable this function.

Parameter	Function
Threshold	You can set HDD space threshold here. System can generate an alarm when the HDD space is lower than the value you set here.
Alarm Out	The corresponding alarm activation output channel when an alarm occurs, There are two channels.
Latch	The alarm output can delay for the specified time after alarm stops. Then system disables alarm and corresponding activation output. The value ranges from 10s to 300s.
Send email	If you enable this function, system can send out email to alarm the specified user.
Alarm upload	System can upload the alarm signal to the network (includes the alarm centre.)
Show message	System pops up the alarm messages in the monitor interface.
Buzzer	Once you check the box here, the buzzer beeps when an alarm occurred.

5.3.3.3 Alarm I/O

Here you can search alarm output status. See Figure 5-54.

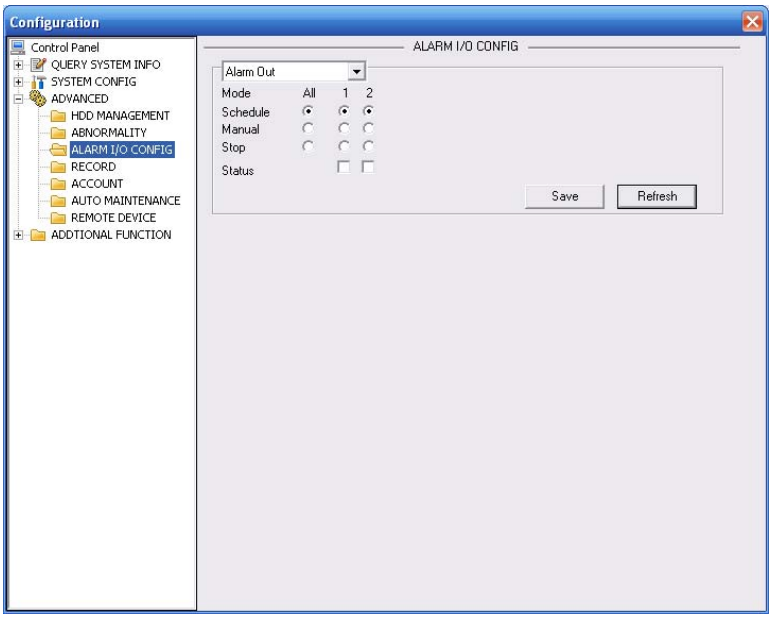


Figure 5-54

Important

The alarm output port should not be connected to high power load directly (It shall be less than 1A) to avoid high current which may result in relay damage. Please use the co contactor to realize the connection between the alarm output port and the load.
Please refer to the following sheet for detailed information.

Parameter	Function
Alarm output	There are two output channels (Multiple choices). Please note the displayed alarm output channel amount here may vary due to the different series.
Activate	Enable/disable alarm output device. After the Web activated the alarm, you need to cancel the channel and then click the activation button to cancel the alarm, or you need to cancel the alarm in the pop-up dialogue box in local-end.
Refresh	Search alarm output status.

5.3.3.4 Record

Record control interface is shown as in Figure 5-55.

The bit stream type includes main stream and extra stream.

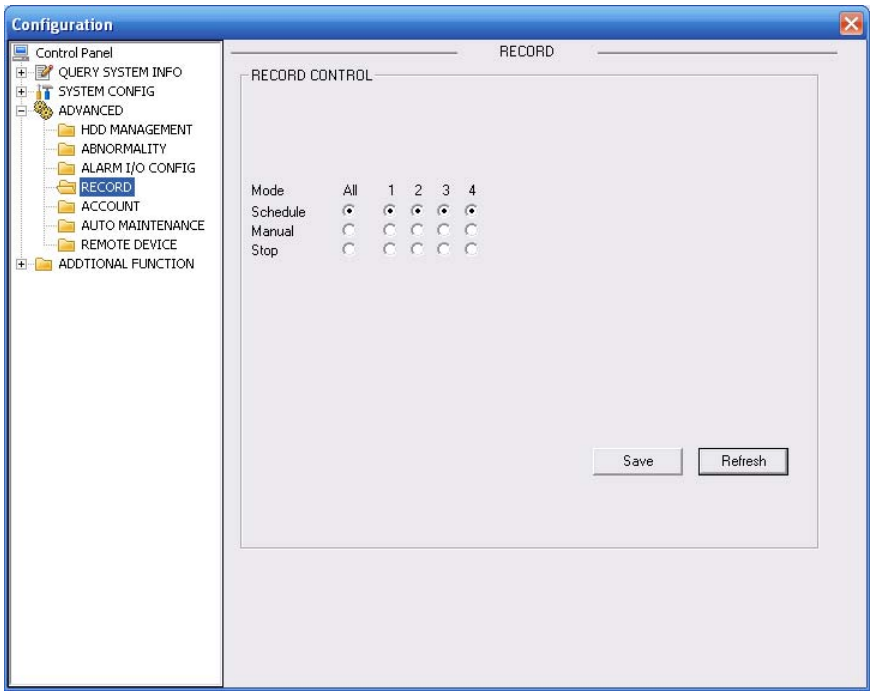


Figure 5-55

Please refer to the following sheet for detailed information.

Parameter	Function
Auto	System enables auto record function as you set in record schedule setup.
Manual	Enable corresponding channel to record no matter what period applied in the record setup.
Stop	Stop current channel record no matter what period applied in the record setup.

Operation here is the same to chapter 4.2.7.4 Manual Record.

5.3.3.5 Account

Here you can add, remove user or modify password. See Figure 5-56.

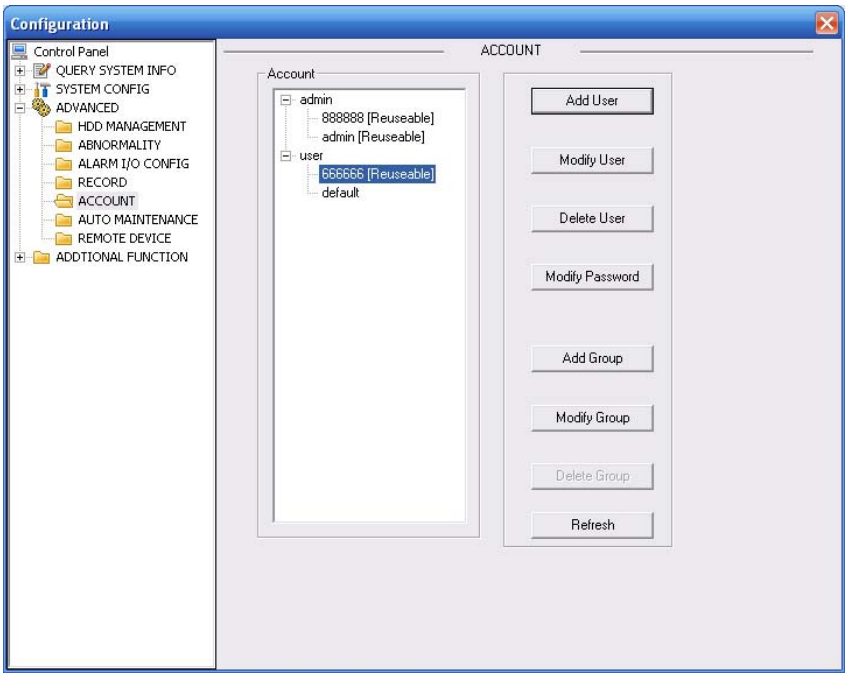


Figure 5-56

Add group: It is to add group and set its corresponding rights. See Figure 5-57.
Please input the group name and then check the box to select the corresponding rights. It includes: live playback, record control, backup, PTZ control, user management and etc. Modify group has the similar interface.

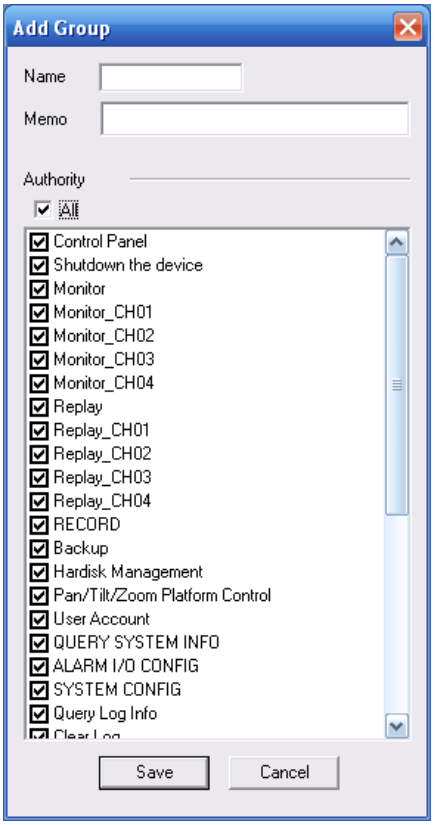


Figure 5-57

Add user: It is to add a name to group and set the user rights. See Figure 5-58.

Here you can input the user name and password and then select one group for current user. Please note the user rights shall not exceed the group right setup.
For convenient setup, please make sure the general user has the lower rights setup than the admin.
Modify user has the similar interface.

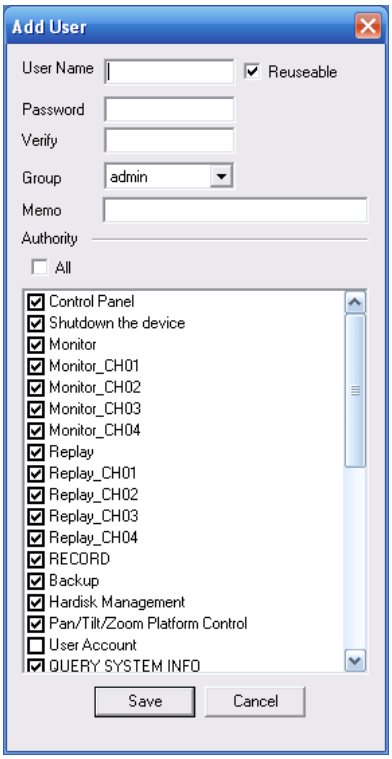


Figure 5-58

Modify password

It is to modify the user password. You need to input the old password and then input the new password twice to confirm the new setup. Please click the Save button to save. See Figure 5-59.
For the user of the account rights, he can modify the password of other users.

Figure 5-59

Delete user/group

Select a user and then click Delete button, system pops up a dialogue box to confirm current operation. Click OK button to delete.

5.3.3.6 Auto Maintenance

Here you can select auto reboot and auto delete old files interval from the dropdown list. See Figure 5-60.

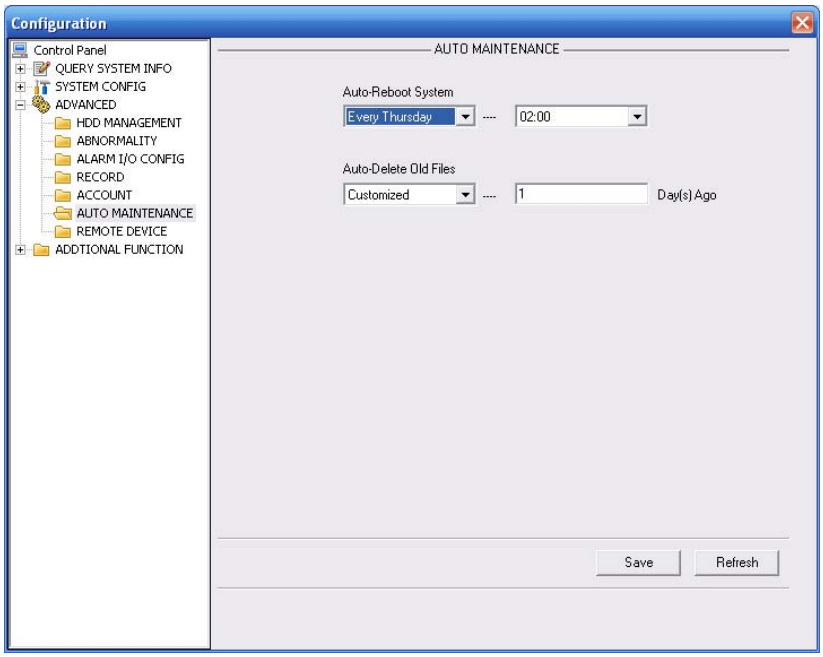


Figure 5-60

5.3.3.7 Remote Device

The remote device interface is shown as in Figure 5-61.

Please refer to chapter 4.2.6 for detailed information.

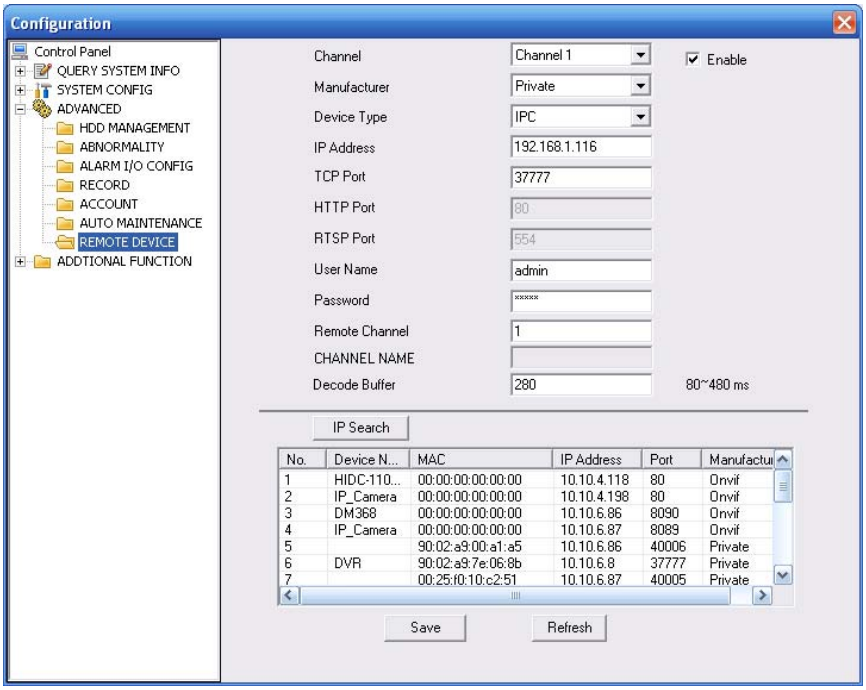


Figure 5-61

5.3.4 Additional Function

5.3.4.1 Preferred DNS

Here you can set server or local operator DNS address. See Figure 5-62.

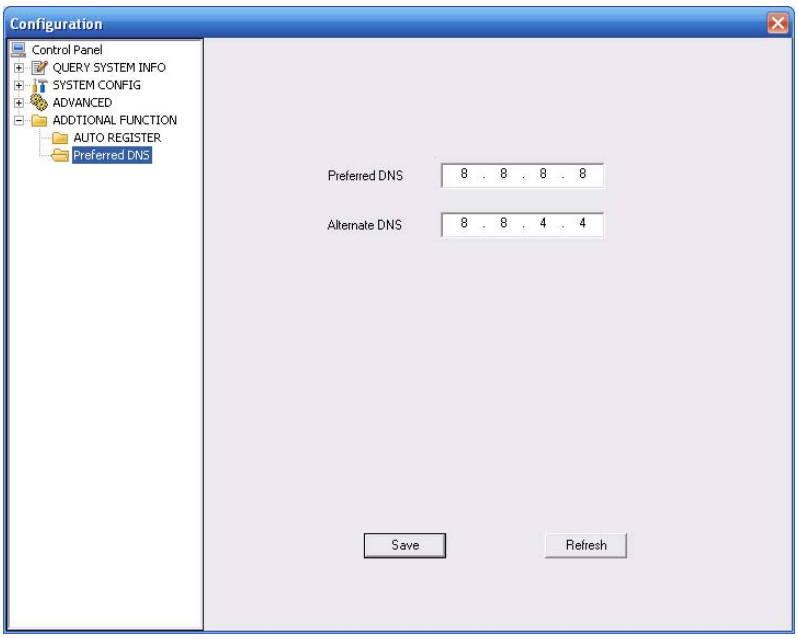


Figure 5-62

5.3.4.2 Auto Register

Auto register interface is shown as below. See Figure 5-63.

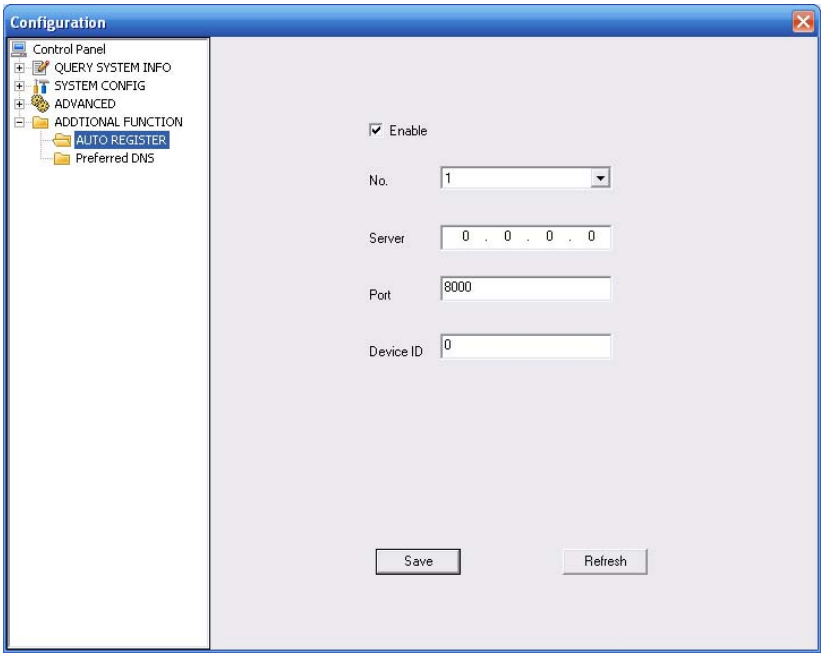


Figure 5-63 Auto Register

Please refer to the following sheet for detailed information.

Parameter	Function
Enable	Enable auto register function.
No.	Device management server number.
IP	Device management server IP address.

Port	Server port number.
Device ID	Device ID in the device management server.

5.4 Search

Click search button, you can see an interface is shown as in Figure 5-64.
The record type includes the general record, alarm record, motion detect record, local record, picture, card number record.
Please select record playback mode, and then select start time, end time and channel. Then please click search button, you can see the corresponding files in the list.

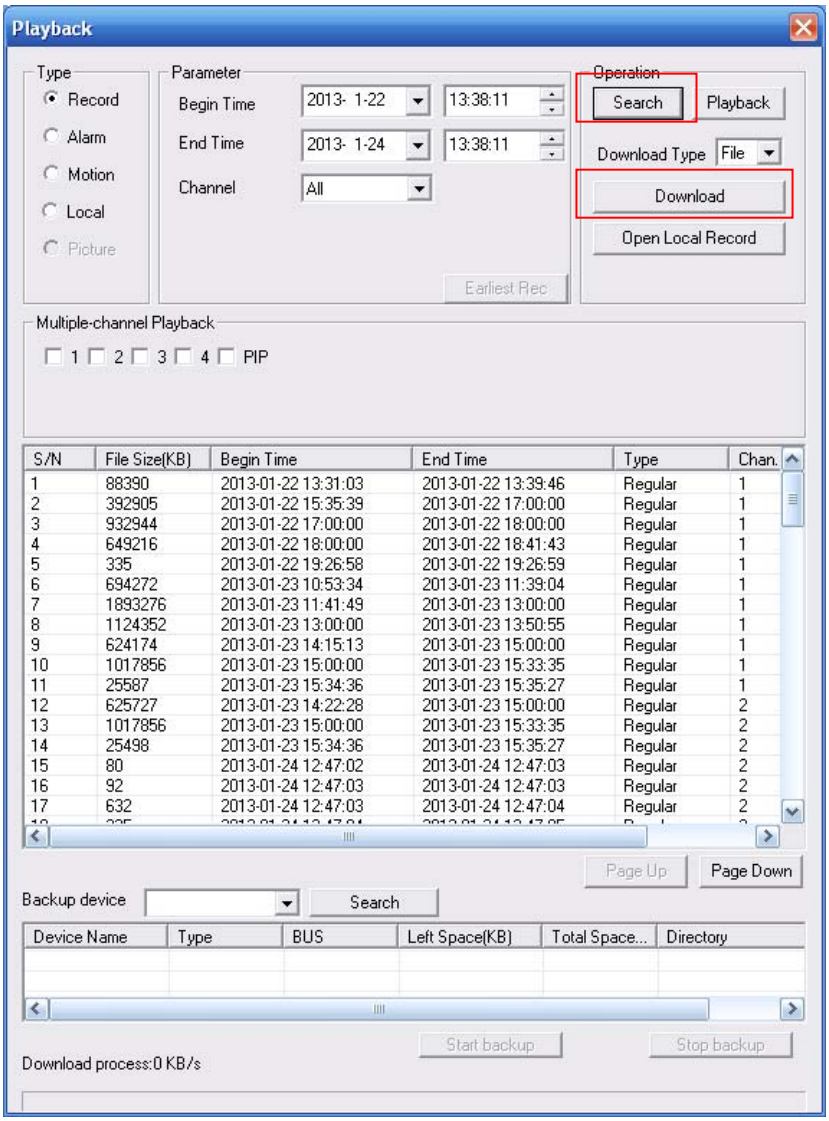


Figure 5-64

Select the file(s) you want to download and then click download button, system pops up a dialogue box shown as in Figure 5-65, then you can specify file name and path to download the file(s) to your local pc.

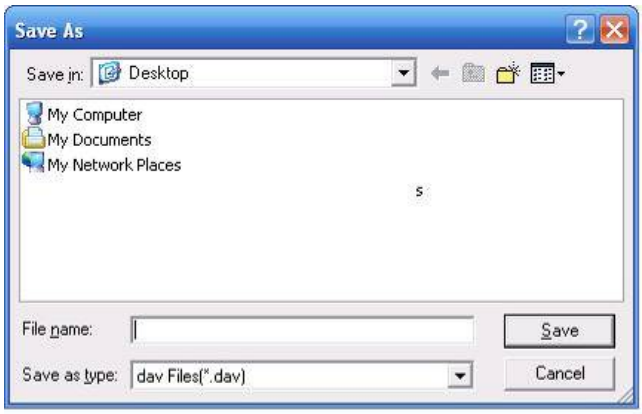


Figure 5-65

Now you can see system begins download and the download button becomes stop button. You can click it to terminate current operation.

At the bottom of the interface, there is a process bar for your reference. See Figure 5-66.

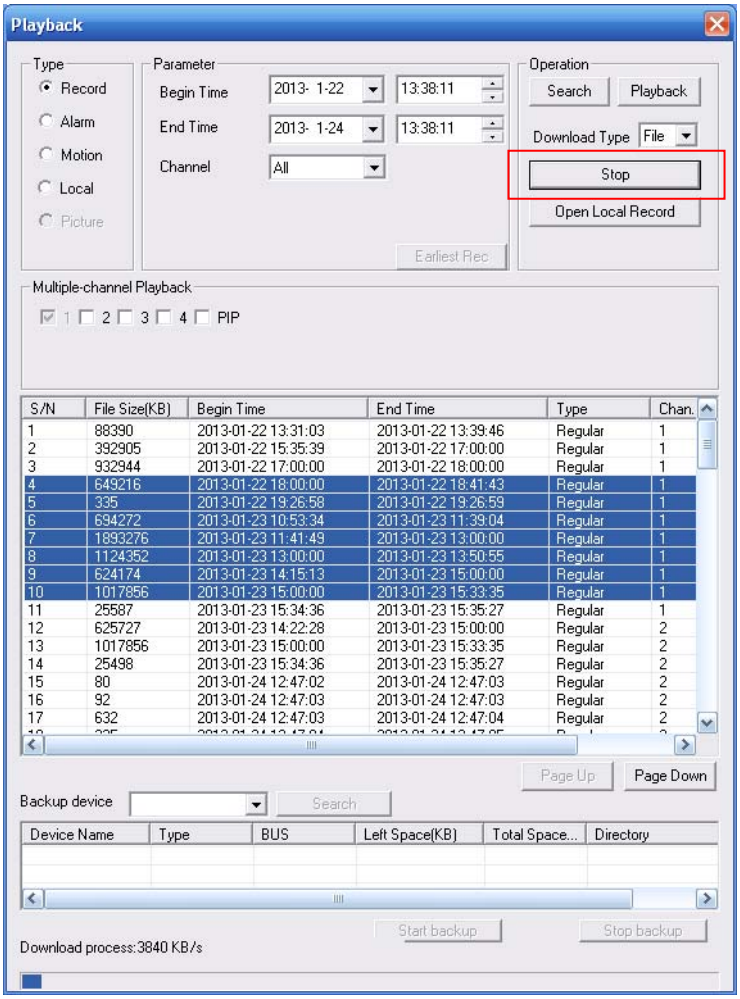


Figure 5-66

When download completed, you can see a dialogue box shown as in Figure 5-67. Please click OK to exit.

Figure 5-67

Please refer to the following sheet for detailed information.

Type	Parameter	Function
Type	Record	Search general record, alarm record and motion detection record.
	Alarm	Search alarm record.
	Motion Detection	Search motion detection record.
	Local	Search local record.
	Snapshot	Search snapshot file.
	Card	Search card file.
Item	Begin time	Set the file start time. You can select from the dropdown list.
	End time	Set the file end time. You can select from the dropdown list
	Channel	Select the channel from the dropdown list.
Operation	Search	Click this button you can view the recorded file matched your requirements. There are 100 files in one screen. You can use pg up/down button to view more files.
	Playback	Select the file first and then click playback button to view the video.
	Download type	Download by file: Select the file(s) and then click download button. Download by time: Download the recorded file(s) within your specified period.
	Download	Select the file you need (multiple choices) and then click download button, you can see system pops up a dialogue box. See Figure 7-55. Input the downloaded file name, specify the path and then click OK button. You can see system begins download and the download becomes stop button. There is a progress bar for your reference.
	Open local record	Select local record to play.
	Earliest record	Select a channel first and then click the earliest record button; you can view the earliest record of the current channel in the HDD.
Multiple-channel playback		System supports playback one file in several monitor channels.

During the playback process, you can see there are control buttons such as play, pause, stop. slow play and fast play in the play process bar. You can view current playback file channel name, time and data statistics.

In the search result interface, you can select one or more files to download to your local PC.

The playback control bar is shown as below. See Figure 5-68.

1: Play

2: Pause
3: Stop
4: Slow play
5: Fast play

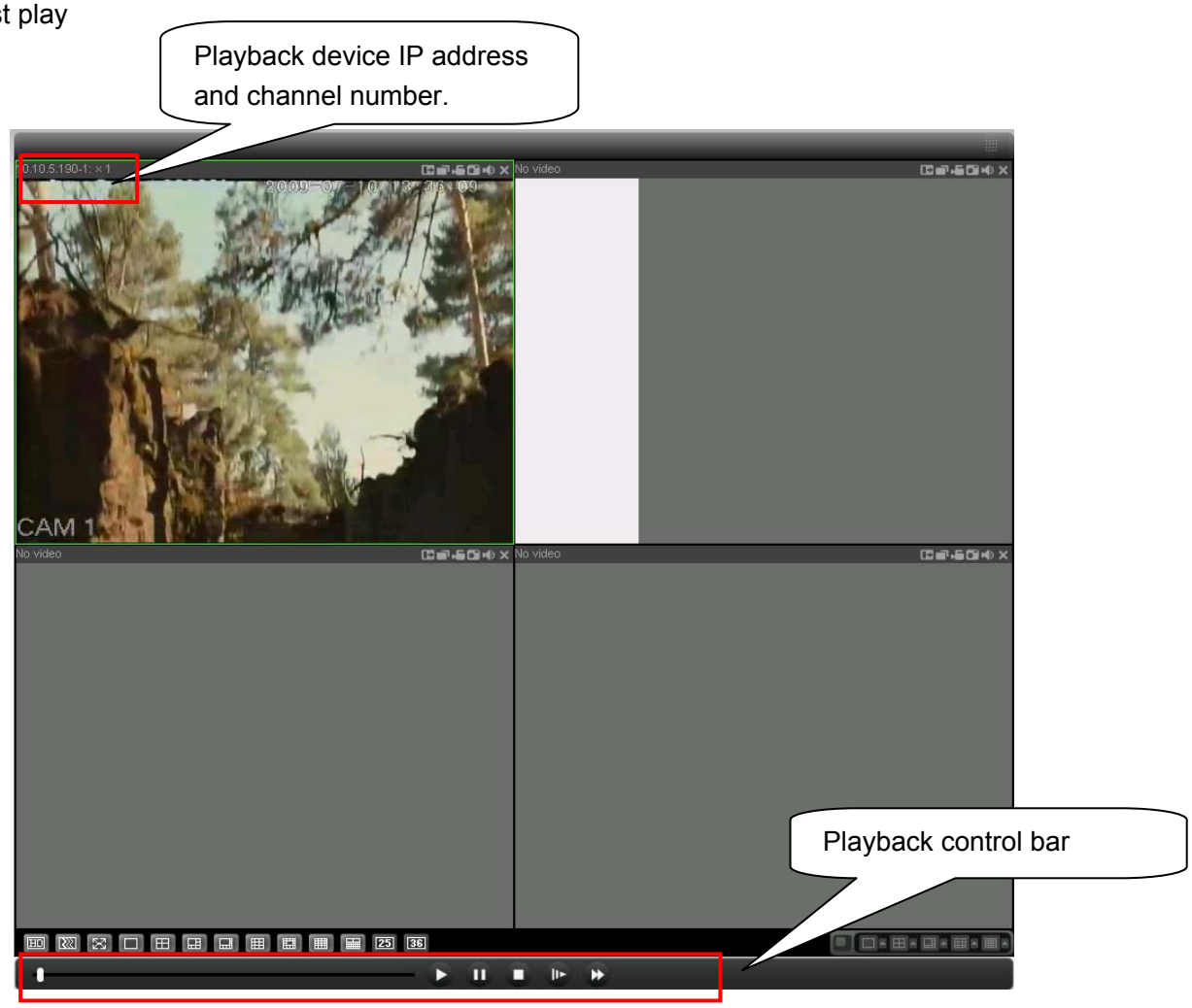


Figure 5-68

5.5 Alarm

Click alarm function, you can see an interface is shown as in Figure 5-69.
Here you can set device alarm type and alarm sound setup.

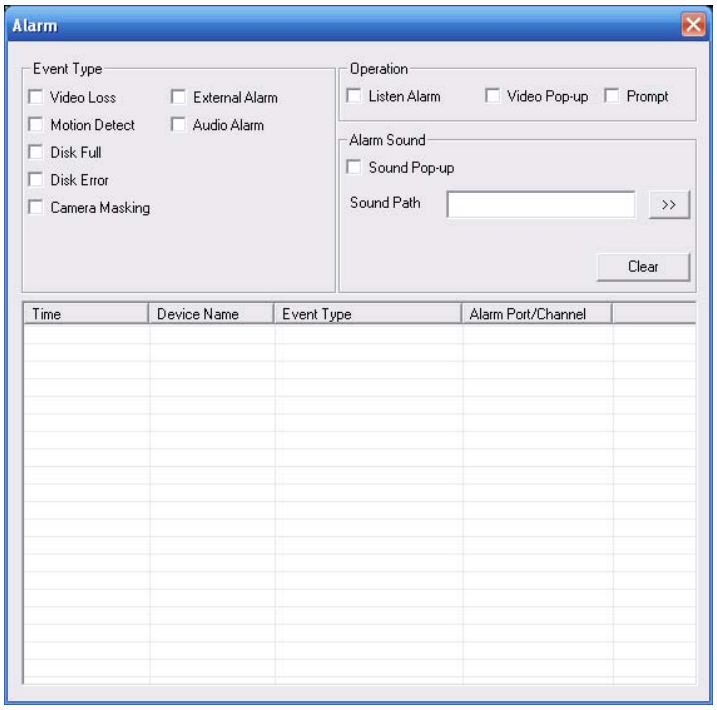


Figure 5-69

Please refer to the following sheet for detailed information.

Please make sure current device can upload the alarm.

Type	Parameter	Function
Alarm Type	Video loss	System alarms when video loss occurs.
	Motion detection	System alarms when motion detection alarm occurs,
	Disk full	System alarms when disk is full.
	Disk error	System alarms when disk error occurs.
	Camera masking	System alarms when camera is viciously masking.
	Encode alarm	System alarms when peripheral device alarms.
	External alarm	Alarm input device sends out alarm.
Operation	Listen alarm	System notifies web when alarm occurs (you select from the above event type), and then web can notify user.
	Video	When alarm occurs, system auto enables video monitor. This function only applies to video detection alarm (motion detection, video loss and camera masking).
	Prompt	Automatically pops up alarm dialogue box.
	Sound pop up	System sends out alarm sound when alarm occurs. You can specify as you wish.
	Path	Here you can specify alarm sound file.

5.6 About

Click about button, you can view current web client information. See Figure 5-70.

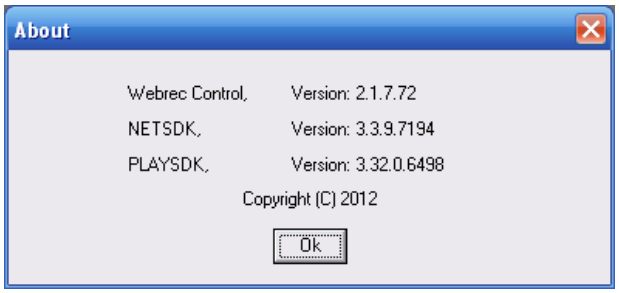


Figure 5-70

5.7 Log out

Click log out button, system goes back to log in interface. See Figure 5-71.
You need to input user name and password to login again.

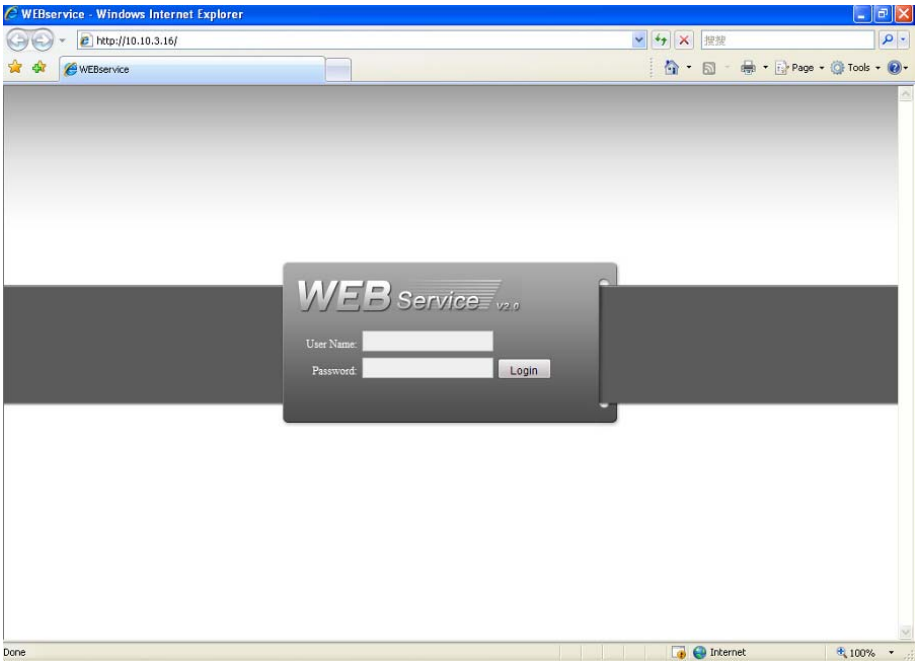


Figure 5-71

5.8 Un-install Web Control

You can use web un-install tool “uninstall web.bat” to un-install web control.

Please note, before you un-installation, please close all web pages, otherwise the un-installation might result in error.

6 Professional Surveillance System

Besides Web, you can use our Professional Surveillance Software (PSS) to login the device. For detailed information, please refer to *PSS user's manual.*

7 FAQ

1. NVR can not boot up properly.

There are following possibilities:

- Input power is not correct.
- Power connection is not correct.
- Power switch button is damaged.
- Program upgrade is wrong.
- HDD malfunction or something wrong with HDD ribbon.
- Seagate DB35.1，DB35.2，SV35 or Maxtor 17-g has compatibility problem. Please upgrade to the latest version to solve this problem.
- Front panel error.
- Main board is damaged.

2. NVR often automatically shuts down or stops running.

There are following possibilities:

- Input voltage is not stable or it is too low.
- HDD malfunction or something wrong wit the ribbon.
- Button power is not enough.
- Front video signal is not stable.
- Working environment is too harsh, too much dust.
- Hardware malfunction.

3. System can not detect hard disk.

There are following possibilities:

- HDD is broken.
- HDD ribbon is damaged.
- HDD cable connection is loose.
- Main board SATA port is broken.

4. There is no video output whether it is one-channel, multiple-channel or all-channel output.

There are following possibilities:

- Program is not compatible. Please upgrade to the latest version.
- Brightness is 0. Please restore factory default setup.
- There is no video input signal or it is too weak.
- Check privacy mask setup or your screen saver.
- NVR hardware malfunctions.

5. Real-time video color is distorted.

There are following possibilities:

- When using BNC output, NTSC and PAL setup is not correct. The real-time video becomes black and white.
- NVR and monitor resistance is not compatible.
- Video transmission is too long or degrading is too huge.

- NVR color or brightness setup is not correct.

6. Can not search local records.

There are following possibilities:

- HDD ribbon is damaged.
- HDD is broken.
- Upgraded program is not compatible.
- The recorded file has been overwritten.
- Record function has been disabled.

7. Video is distorted when searching local records.

There are following possibilities:

- Video quality setup is too low.
- Program read error, bit data is too small. There is mosaic in the full screen. Please restart the NVR to solve this problem.
- HDD data ribbon error.
- HDD malfunction.
- NVR hardware malfunctions.

8. There is no audio when monitor.

There are following possibilities:

- It is not a power picker.
- It is not a power acoustics.
- Audio cable is damaged.
- NVR hardware malfunctions.

9. There is audio when monitor but there is no audio when system playback.

There are following possibilities:

- Setup is not correct. Please enable audio function
- Corresponding channel has no video input. Playback is not continuous when the screen is blue.

10. Time display is not correct.

There are following possibilities:

- Setup is not correct
- Battery contact is not correct or voltage is too low.
- Crystal is broken.

11. NVR can not control PTZ.

There are following possibilities:

- Front panel PTZ error
- PTZ decoder setup, connection or installation is not correct.
- Cable connection is not correct.
- PTZ setup is not correct.
- PTZ decoder and NVR protocol is not compatible.

- PTZ decoder and NVR address is not compatible.
- When there are several decoders, please add 120 Ohm between the PTZ decoder A/B cables furthest end to delete the reverberation or impedance matching. Otherwise the PTZ control is not stable.
- The distance is too far.

12. Motion detection function does not work.

There are following possibilities:

- Period setup is not correct.
- Motion detection zone setup is not correct.
- Sensitivity is too low.
- For some versions, there is hardware limit.

13. Can not log in client-end or web.

There are following possibilities:

- For Windows 98 or Windows ME user, please update your system to Windows 2000 sp4. Or you can install client-end software of lower version. Please note right now, our NVR is not compatible with Windows VISTA control.
- ActiveX control has been disabled.
- No dx8.1 or higher. Please upgrade display card driver.
- Network connection error.
- Network setup error.
- Password or user name is invalid.
- Client-end is not compatible with NVR program.

14. There is only mosaic no video when preview or playback video file remotely.

There are following possibilities:

- Network fluency is not good.
- Client-end resources are limit.
- There is multiple-cast group setup in NVR. This mode can result in mosaic. Usually we do not recommend this mode.
- There is privacy mask or channel protection setup.
- Current user has no right to monitor.
- NVR local video output quality is not good.

15. Network connection is not stable.

There are following possibilities:

- Network is not stable.
- IP address conflict.
- MAC address conflict.
- PC or NVR network card is not good.

16. Burn error /USB back error.

There are following possibilities:

- Burner and NVR are in the same data cable.

- System uses too much CPU resources. Please stop record first and then begin backup.
- Data amount exceeds backup device capacity. It may result in burner error.
- Backup device is not compatible.
- Backup device is damaged.

17. Keyboard can not control NVR.

There are following possibilities:

- NVR serial port setup is not correct
- Address is not correct
- When there are several switchers, power supply is not enough.
- Transmission distance is too far.

18. Alarm signal can not been disarmed.

There are following possibilities:

- Alarm setup is not correct.
- Alarm output has been open manually.
- Input device error or connection is not correct.
- Some program versions may have this problem. Please upgrade your system.

19. Alarm function is null.

There are following possibilities:

- Alarm setup is not correct.
- Alarm cable connection is not correct.
- Alarm input signal is not correct.
- There are two loops connect to one alarm device.

21. Record storage period is not enough.

There are following possibilities:

- Camera quality is too low. Lens is dirty. Camera is installed against the light. Camera aperture setup is not correct.
- HDD capacity is not enough.
- HDD is damaged.

22. Can not playback the downloaded file.

There are following possibilities:

- There is no media player.
- No DXB8.1 or higher graphic acceleration software.
- There is no DivX503Bundle.exe control when you play the file transformed to AVI via media player.
- No DivX503Bundle.exe or ffdshow-2004 1012 .exe in Windows XP OS.

23. Forgot local menu operation password or network password

Please contact your local service engineer or our sales person for help. We can guide you to solve this problem.

24. I can not playback file after I burn or copy CD.

There are following possibilities:

- The CD or CD-Rom is not the same model.
- CD-Rom drive power cable or data cable connect to the main board is loosen.
- Always use the CD we recommended. .

25. There is no temperature/humidity data on the device after I connected the temperature humidity device.

There are following possibilities:

- Temperature humidity setup is not right. Please refer to chapter 4.1.10 for detailed information.
- The temperature humidity device usually adopts RS485 port to output data. Do remember using 485 to 232 tool if you are using the RS232 port of the device. You need to change it to RS232 and then connect to the RS232 port of the device. Please makes sure the connection is right. And for some RS485 to RS232 tool, you still need to add power supplying. Please check the cable connection if you are using RS422 port.
- The temperature humidity brand and the selected protocol shall be compatible.

26. There is no corresponding OSD information when I'm burning.

There are following possibilities:

- You forgot to check the box to overlay the information when you set burning setup and card overlay setup.
- The OSD information and position you set is for current selected channel only. Please make sure you have set the OSD information for current channel.

Daily Maintenance

- Please use the brush to clean the board, socket connector and the chassis regularly.
- The device shall be soundly earthed in case there is audio/video disturbance. Keep the device away from the static voltage or induced voltage.
- Please unplug the power cable before you remove the audio/video signal cable, RS232 or RS485 cable.
- Do not connect the TV to the local video output port (VOUT).It may result in video output circuit.
- Always shut down the device properly. Please use the shutdown function in the menu, or you can press the power button in the rear pane for at least three seconds to shut down the device. Otherwise it may result in HDD malfunction.
- Please make sure the device is away from the direct sunlight or other heating sources. Please keep the sound ventilation.
- Please check and maintain the device regularly.

Appendix A HDD Capacity Calculation

Calculate total capacity needed by each NVR according to video recording (video recording type and video file storage time).

Step 1: According to Formula (1) to calculate storage capacity q_i that is the capacity of each channel needed for each hour, unit Mbyte.

$$q_i = d_i \div 8 \times 3600 \div 1024 \quad (1)$$

In the formula: d_i means the bit rate, unit Kbit/s

Step 2: After video time requirement is confirmed, according to Formula (2) to calculate the storage capacity m_i, which is storage of each channel needed unit Mbyte.

$$m_i = q_i \times h_i \times D_i \quad (2)$$

In the formula:

h_i means the recording time for each day (hour)

D_i means number of days for which the video shall be kept

Step 3: According to Formula (3) to calculate total capacity (accumulation) q_T that is needed for all channels in the NVR during **scheduled video recording**.

$$q_T = \sum_{i=1}^{c} m_i \quad (3)$$

In the formula: c means total number of channels in one NVR

Step 4: According to Formula (4) to calculate total capacity (accumulation) q_T that is needed for all channels in NVR during **alarm video recording (including motion detection)**.

$$q_T = \sum_{i=1}^{c} m_i \times a\% \quad (4)$$

In the formula：$a\%$ means alarm occurrence rate

Appendix B Compatible Backup Device List

Compatible USB drive list

NOTE: Please upgrade the NVR firmware to latest version to ensure the accuracy of the table below. If you use the USB drive, please confirm the format FAT or FAT32.

Manufacturer	Model	Capacity
Sandisk	Cruzer Micro	512M
Sandisk	Cruzer Micro	1G
Sandisk	Cruzer Micro	2G
Sandisk	Cruzer Freedom	256M
Sandisk	Cruzer Freedom	512M
Sandisk	Cruzer Freedom	1G
Sandisk	Cruzer Freedom	2G
Kingston	DataTraveler Ⅱ	1G
Kingston	DataTraveler Ⅱ	2G
Kingston	DataTraveler	1G
Kingston	DataTraveler	2G
Maxell	USB Flash Stick	128M
Maxell	USB Flash Stick	256M
Maxell	USB Flash Stick	512M
Maxell	USB Flash Stick	1G
Maxell	USB Flash Stick	2G
Kingax	Super Stick	128M
Kingax	Super Stick	256M
Kingax	Super Stick	512M
Kingax	Super Stick	1G
Kingax	Super Stick	2G
Netac	U210	128M
Netac	U210	256M
Netac	U210	512M
Netac	U210	1G
Netac	U210	2G
Netac	U208	4G
Teclast	Ti Cool	128M
Teclast	Ti Cool	256M
Teclast	Ti Cool	512M
Teclast	Ti Cool	1G
SanDisk	cruzer mirco	2G
SanDisk	cruzer mirco	8G
SanDisk	Ti Cool	2G
SanDisk	Hongjiao	4G
Lexar	Lexar	256MB
Kingston	Data Traveler	1G
Kingston	Data Traveler	16GB
Kingston	Data Traveler	32GB
Aigo	L8315	16GB
Sandisk	250	16GB
Kingston	Data Traveler Locker+	32GB
Netac	U228	8GB

Compatible SD Card List

Please refer to the following sheet for compatible SD card brand.

Brand	Standard	Capacity	Card type
Transcend	SDHC6	16GB	SD
Kingston	SDHC4	4GB	SD
Kingston	SD	2GB	SD
Kingston	SD	1GB	SD
Sandisk	SDHC2	8GB	Micro-SD
Sandisk	SD	1GB	Micro-SD

Compatible Portable HDD List

Please refer to the following sheet for compatible portable HDD brand.

Brand	Model	Capacity
YDStar	YDstar HDD box	40G
Netac	Netac	80G
Iomega	Iomega RPHD-CG" RNAJ50U287	250GB
WD Elements	WCAVY1205901	1.5TB
Newsmy	Liangjian	320GB
WD Elements	WDBAAR5000ABK-00	500GB
WD Elements	WDBAAU0015HBK-00	1.5TB
Seagate	FreeAgent Go(ST905003F)	500GB
Aigo	H8169	500GB

Compatible USB DVD Burner List

NOTE: Please upgrade the NVR firmware to latest version to ensure the accuracy of the table below. And you can use the USB cable with the model recommended to set USB burner.

Manufacturer	Model
Sony	DRX-S70U
Benq	TW200D

Compatible SATA DVD Burner List

NOTE: Please upgrade the NVR firmware to latest version to ensure the accuracy of the table below.

Manufacturer	Model
Pioneer	NVR-215CHG
Panasonic	SW-9588-C
Sumsung	TS-H653
Sony	DRU-V200S
Sony	DRU-845S
Samsung	TS-H653
Pioneer	NVR-217CHG
LG	GH22NS30

Compatible SATA HDD List

NOTE: Please upgrade the NVR firmware to latest version to ensure the accuracy of the table below. And SATA HDD should be used for the NVR with SATA port.

Manufacturer	Series	Model	Capacity	Port Mode
Seagate	Seagate SV35.1	ST3250824SV	250G	SATA

Seagate	Seagate SV35.1	ST3500641SV	500G	SATA
Seagate	Seagate SV35.2	ST3250820SV	250G	SATA
Seagate	Seagate SV35.2	ST3320620SV	320G	SATA
Seagate	Seagate SV35.2	ST3500630SV	500G	SATA
Seagate	Seagate SV35.2	ST3750640SV	750G	SATA
Seagate	Seagate SV35.3	ST3250310SV	250G	SATA
Seagate	Seagate SV35.3	ST3500320SV	500G	SATA
Seagate	Seagate SV35.3	ST3750330SV	750G	SATA
Seagate	Seagate SV35.3	ST31000340SV	1T	SATA
Seagate	Seagate SV35.4	ST3320410SV	320G	SATA
Seagate	Seagate SV35.4	ST3250311SV	250G	SATA
Seagate	Seagate SV35.5	ST3500410SV	500G	SATA
Seagate	Seagate SV35.5	ST3500411SV	500G	SATA
Seagate	Seagate SV35.5	ST31000525SV	1T	SATA
Seagate	Seagate SV35.5	ST31000526SV	1T	SATA
Seagate	Seagate SV35.5	ST1000VX000	1T	SATA
Seagate	Seagate SV35.5	ST2000VX003	2T	SATA
Seagate	Seagate SV35.5	ST2000VX002	2T	SATA
Seagate	Seagate SV35.5	ST2000VX000	2T	SATA
Seagate	Seagate SV35.5	ST3000VX000	3T	SATA
Seagate	Seagate Pipeline HD	ST3320410CS	320G	SATA
Seagate	Seagate Pipeline HD	ST3320310CS	320G	SATA
Seagate	Seagate Pipeline HD	ST3500422CS	500G	SATA
Seagate	Seagate Pipeline HD	ST3500321CS	500G	SATA
Seagate	Seagate Pipeline HD2	ST3250412CS	250G	SATA
Seagate	Seagate Pipeline HD2	ST3320311CS	250G	SATA
Seagate	Seagate Pipeline HD2	ST3500414CS	500G	SATA
Seagate	Seagate Pipeline HD2	ST3500312CS	500G	SATA
Seagate	Seagate Pipeline HD2	ST31000424CS	1T	SATA
Seagate	Seagate Pipeline HD2	ST31000322CS	1T	SATA
Seagate	Seagate Pipeline HD2	ST1000VM002	1T	SATA
Seagate	Seagate Pipeline HD2	ST1500VM002	1T	SATA
Seagate	Seagate Pipeline HD2	ST2000VM002	2T	SATA
Seagate	Seagate Pipeline HD2	ST2000VM003	2T	SATA
Seagate	Seagate Constellation ES	ST3500514NS	500G	SATA
Seagate	Seagate Constellation ES	ST31000524NS	1T	SATA
Seagate	Seagate Constellation ES	ST32000644NS	2T	SATA
Seagate	Seagate Constellation ES	ST2000NM0011	2T	SATA
Seagate	Seagate Constellation ES	ST1000NM0011	1T	SATA
Seagate	Seagate Constellation ES	ST500NM0011	500G	SATA
Seagate	Seagate Constellation ES	ST2000NM0031	2T	SATA
Seagate	Seagate Constellation ES	ST1000NM0031	1T	SATA
Seagate	Seagate Constellation ES	ST500NM0031	500G	SATA
Seagate	Seagate Constellation ES	ST2000NM0051	2T	SATA
Seagate	Seagate Constellation ES	ST1000NM0051	1T	SATA
Seagate	Seagate Constellation ES	ST500NM0051	500G	SATA

Seagate	Seagate Constellation ES.2	ST33000650NS	3T	SATA
Seagate	Seagate Constellation ES.2	ST32000645NS	2T	SATA
Seagate	Seagate Constellation ES.2	ST33000651NS	3T	SATA
Seagate	Seagate Constellation ES.2	ST32000646NS	2T	SATA
Seagate	Seagate Constellation ES.2	ST33000652NS	3T	SATA
Seagate	Seagate Constellation ES.2	ST32000647NS	2T	SATA
Westem Digital	Cariar SE	WD3200JD	320G	SATA
Westem Digital	Cariar SE	WD3000JD	300G	SATA
Westem Digital	Cariar SE	WD2500JS	250G	SATA
Westem Digital	Cariar SE16	WD7500KS	750G	SATA
Westem Digital	Cariar SE16	WD5000KS	500G	SATA
Westem Digital	Cariar SE16	WD4000KD	400G	SATA
Westem Digital	Cariar SE16	WD3200KS	320G	SATA
Westem Digital	Cariar SE16	WD2500KS	250G	SATA
Westem Digital	WD Caviar SE16	WD2500YS-01SHB0	250G	SATA
Westem Digital	WD Caviar RE16	WD3200YS-01PGB0	320G	SATA
Westem Digital	WD Caviar RE2	WD5000YS-01MPB0	500G	SATA
Westem Digital	WD AV—AVJS	WD2500AVJS-63WDA0	500G	SATA
Westem Digital	WD AV—AVJS	WD3200AVJS-63WDA0	320G	SATA
Westem Digital	WD AV—AVJS	WD5000AVJS-63YJA0	500G	SATA
Westem Digital	WDAV-GP—AVCS	WD5000AVCS-63H1B1	500G	SATA
Westem Digital	WDAV-GP—AVCS	WD7500AVCS-63ZLB0	750G	SATA
Westem Digital	WDAV-GP—AVCS	WD3200AVCS	320G	SATA
Westem Digital	WDAV-GP—AVCS	WD2500AVCS	250G	SATA
Westem Digital	WDAV-GP—EVCS	WD10EVCS-63ZLB0	1T	SATA
Westem Digital	WDAV-GP—EVCS	WD20EVCS-63ZLB0	2T	SATA
Westem Digital	WDAV-GP—AVVS	WD3200AVVS-63L2B0	320G	SATA
Westem Digital	WDAV-GP—AVVS	WD5000AVVS-63ZWB0	500G	SATA
Westem Digital	WDAV-GP—AVVS	WD7500AVVS-63E1B1	750G	SATA

Westem Digital	WDAV-GP—AVVS	WD7500AVVS-63E1B1	750G	SATA
Westem Digital	WDAV-GP—EVVS	WD10EVVS-63E1B1	1T	SATA
Westem Digital	WDAV-GP—EVDS	WD10EVDS-63N5B1	1T	SATA
Westem Digital	WDAV-GP—EVDS	WD15EVDS-63V9B0	1.5T	SATA
Westem Digital	WDAV-GP—EVDS	WD20EVDS-63T3B0	2T	SATA
Westem Digital	WDAV-GP—AVDS	WD5000AVDS-63U7B0	500G	SATA
Westem Digital	WD AV-GP	WD30EURS	3T	SATA
Westem Digital	WD AV-GP	WD25EURS	2.5T	SATA
Westem Digital	WD AV-GP	WD20EURS	2T	SATA
Westem Digital	WD AV-GP	WD15EURS	1.5T	SATA
Westem Digital	WD AV-GP	WD10EURS	1T	SATA
Westem Digital	WD AV-GP	WD10EURX	1T	SATA
Westem Digital	WD AV-GP	WD7500AURS	750G	SATA
Westem Digital	WD AV-GP	WD7500AVDS	500G	SATA
Westem Digital	WD AV-GP	WD500AVDS	500G	SATA
Westem Digital	WD AV-GP	WD10EUCX	1T	SATA
Samsung	Samsung—HA	HA500LJ/CE	500G	SATA
Samsung	Samsung—HA	HA751LJ	750G	SATA
Samsung	Samsung—HA	HA101UJ/CE	1T	SATA
Samsung	Samsung—HD	HD502HI/CEC	500G	SATA
Samsung	Samsung—HD	HD103SI/CEC	1T	SATA
Samsung	Samsung—HD	HD154UI/CE	1.5T	SATA
Hitachi	HitachiCinemaStar™ 5K500	HCP725050GLA380	500G	SATA
Hitachi	HitachiCinemaStar™ 7K1000.B	HCT721050SLA360	500G	SATA
Hitachi	HitachiCinemaStar™ 7K1000.B	HCT721075SLA360	750G	SATA
Hitachi	HitachiCinemaStar™ 7K1000.B	HCT721010SLA360	1T	SATA
Maxtor	DiamondMax 20	STM3320820AS	320G	SATA
Maxtor	DiamondMax 20	STM3250820AS	250G	SATA

APPENDIX C Compatible CD/DVD Device List

NOTE: Please upgrade the NVR firmware to latest version to ensure the accuracy of the table below. And you can use the USB cable with the model recommended to set USB burner.

Manufacturer	Model	Port Type	Type
Sony	DRX-S50U	USB	DVD-RW
Sony	DRX-S70U	USB	DVD-RW
Sony	AW-G170S	SATA	DVD-RW
Samsung	TS-H653A	SATA	DVD-RW
Panasonic	SW-9588-C	SATA	DVD-RW
Sony	DRX-S50U	USB	DVD-RW
BenQ	5232WI	USB	DVD-RW

Appendix D Compatible Displayer List

Please refer to the following sheet for the compatible device brand.

Brand	Model	Dimension (Unit: inch)
BENQ（LCD）	ET-0007-TA	19-inch (wide screen)
DELL（LCD）	E178FPc	17-inch
BENQ（LCD）	Q7T4	17-inch
BENQ（LCD）	Q7T3	17-inch
LENOVO（LCD）	LXB-L17C	17-inch
SANGSUNG（LCD）	225BW	22-inch (wide screen)
HFNOVO (CRT)	LXB-FD17069HB	17-inch
HFNOVO (CRT)	LXB-HF769A	17-inch
HFNOVO (CRT)	LX-GJ556D	17-inch
Samsung（LCD）	2494HS	24-inch
Samsung（LCD）	P2350	23-inch
Samsung（LCD）	P2250	22-inch
Samsung（LCD）	P2370G	23-inch
Samsung（LCD）	2043	20-inch
Samsung（LCD）	2243EW	22-inch
Samsung（LCD）	SMT-1922P	19-inch
Samsung（LCD）	T190	19-inch
Samsung（LCD）	T240	24-inch
LG（LCD）	W1942SP	19-inch
LG（LCD）	W2243S	22-inch
LG（LCD）	W2343T	23-inch
BENQ（LCD）	G900HD	18.5-inch
BENQ（LCD）	G2220HD	22-inch
PHILIPS（LCD）	230E	23-inch
PHILIPS（LCD）	220CW9	23-inch
PHILIPS（LCD）	220BW9	24-inch
PHILIPS（LCD）	220EW9	25-inch

Appendix E Compatible Switcher List

Please refer to the following sheet form compatible switcher list.

Brand	Model	Network Working Mode
D-LinK	DES-1016D	10/100M self-adaptive
D-LinK	DES-1008D	10/100M self-adaptive
Ruijie	RG-S1926S	There are five network modes： 1、AUTO 2、HALF-10M 3、FULL-10M 4、HALF-100M 5、FULL-100M
H3C	H3C-S1024	10/100M self-adaptive
TP-LINK	TL-SF1016	10/100M self-adaptive
TP-LINK	TL-SF1008+	10/100M self-adaptive

Appendix F Compatible Wireless Mouse List

Please refer to the following sheet for compatible SD card brand.

Brand	Model
SUNT讯拓	V80
Rapoo	3500
Logitech	M215
Shuangfeiyan	Tianyao G7-630

Appendix G Earthing

1. What is the surge?

Surge is a short current or voltage change during a very short time. In the circuit, it lasts for microsecond. In a 220V circuit, the 5KV or 10KV voltage change during a very short time (about microseconds) can be called a surge. The surge comes from two ways: external surge and internal surge.

- The external surge: The external surge mainly comes from the thunder lightning. Or it comes from the voltage change during the on/off operation in the electric power cable.
- The internal surge: The research finds 88% of the surge from the low voltage comes from the internal of the building such as the air conditioning, elevator, electric welding, air compressor, water pump, power button, duplicating machine and other device of inductive load.

The lightning surge is far above the load level the PC or the micro devices can support. In most cases, the surge can result in electric device chip damage, PC error code, accelerating the part aging, data loss and etc. Even when a small 20 horsepower inductive engine boots up or stops, the surge can reach 3000V to 50000V, which can adversely affect the electronic devices that use the same distribution box.

To protect the device, you need to evaluate its environment, the lighting affection degree objectively. Because surge has close relationship with the voltage amplitude, frequency, network structure, device voltage-resistance, protection level, ground and etc. The thunder proof work shall be a systematic project, emphasizing the all-round protection (including building, transmission cable, device, ground and etc.). There shall be comprehensive management and the measures shall be scientific, reliable, practical and economic. Considering the high voltage during the inductive thundering, the International Electrotechnical Committee (IEC) standard on the energy absorbing step by step theory and magnitude classification in the protection zone, you need to prepare multiple precaution levels.

You can use the lightning rod, lightning strap or the lightning net to reduce the damage to the building, personal injury or the property,

- The lightning protection device can be divided into three types:
  Power lightning arrester: There are 220V single-phrase lightning arrester and 380V three-phrase lightening arrester (mainly in parallel connection, sometimes use series connection)
  You can parallel connect the power lightning arrester in the electric cable to reduce the short-time voltage change and release the surge current. From the BUS to the device, there are usually three levels so that system can reduce the voltage and release the current step by step to remove the thunderstorm energy and guarantee the device safety. You can select the replaceable module type, the terminal connection type and portable socket according to your requirement.
- Signal lightning arrester: This device is mainly used in the PC network, communication system. The connection type is serial connection. Once you connected the signal lightning arrestor with the signal port, it can cut the channel of the thunderstorm to the device, and on the other hand, it can discharge the current to the ground to guarantee the device proper

work. The signal lightning arrester has many specifications, and widely used in many devices such as telephone, network, analog communication, digital communication, cable TV and satellite antenna. For all the input port, especially those from the outdoor, you need to install the signal lightning arrester.

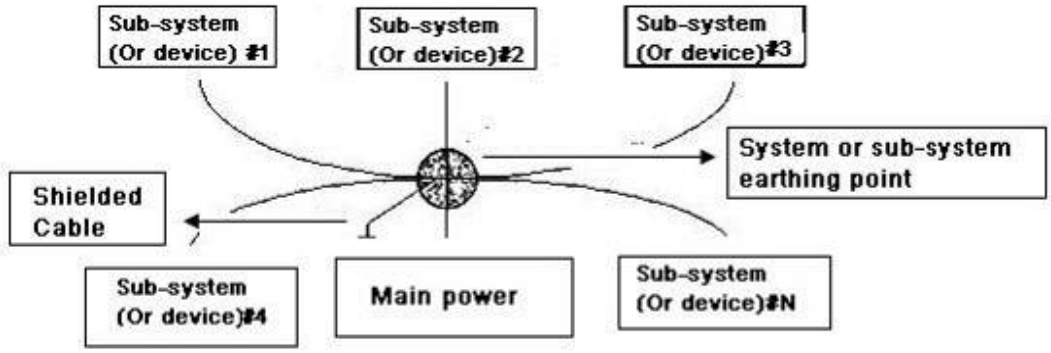
- Antenna feed cable lightning arrester: It is suitable for antenna system of the transmitter or the device system to receive the wireless signal. It uses the serial connection too.

Please note, when you select the lighting arrester, please pay attention to the port type and the earthing reliability. In some important environment, you need to use special shielded cable. Do not parallel connect the thunder proof ground cable with the ground cable of the lightning rod. Please make sure they are far enough and grounded respectively.

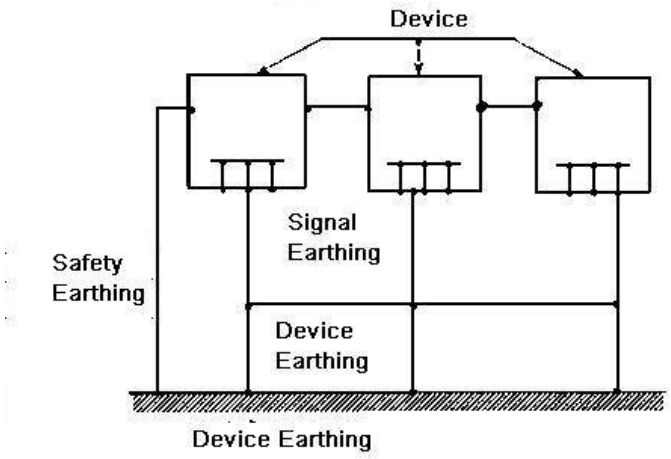
2. The earthing modes

We all know the earthing is the most complicated technology in the electromagnetism compatibility design since there is no systematic theory or module. The earthing has many modes, but the selection depends on the system structure and performance. The following are some successfully experience from our past work.

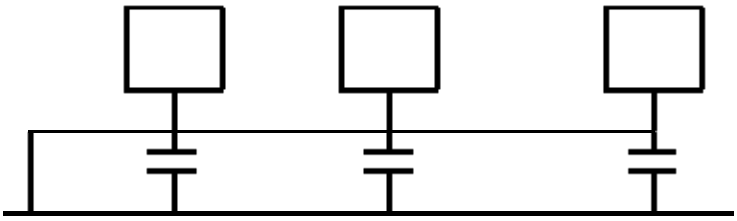
One-point ground: In the following figure you can see there is a one-point ground. This connection provides common port to allow signal to be transmitted in many circuits. If there is no common port, the error signal transmission occurred. In the one-point ground mode, each circuit is just grounded only and they are connected at the same port. Since there is only one common port, there is no circuit and so, there is no interference.



Multiple-point ground: In the following figure, you can see the internal circuit uses the chassis as the common point. While at the same time, all devices chassis use the earthing as the common port. In this connection, the ground structure can provide the lower ground resistance because when there are multiple-point grounds; each ground cable is as short as possible. And the parallel cable connection can reduce the total conductance of the ground conductor. In the high-frequency circuit, you need to use the multiple-point ground mode and each cable needs to connect to the ground. The length shall be less than the 1/20 of the signal wavelength.



Mixed ground: The mix ground consists of the feature of the one-point ground and multiple-point ground. For example, the power in the system needs to use the one-point ground mode while the radio frequency signal requires the multiple-point ground. So, you can use the following figure to earth. For the direct current (DC), the capacitance is open circuit and the circuit is one-point ground. For the radio frequency signal, the capacitance is conducive and the circuit adopts multiple-point ground.



When connecting devices of huge size (the device physical dimension and connection cable is big comparing with the wave path of existed interference), then there are possibility of interference when the current goes through the chassis and cable. In this situation, the interference circuit path usually lies in the system ground circuit.

When considering the earthing, you need to think about two aspects: The first is the system compatibility, and the other is the external interference coupling into the earth circuit, which results in system error. For the external interference is not regular, it is not easy to resolve.

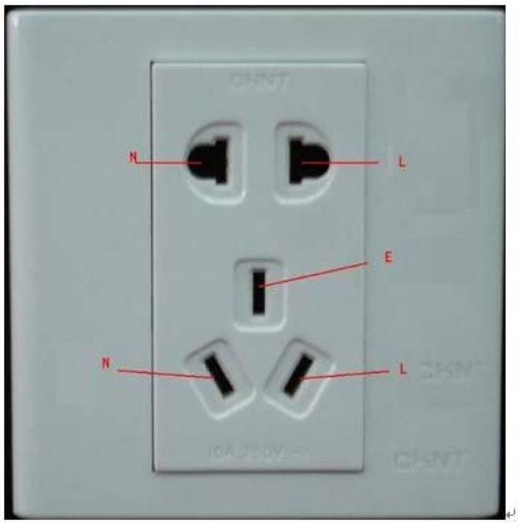
3. Thunder proof ground method in the monitor system

- The monitor system shall have sound thunder proof earthing to guarantee personnel safety and device safety.
- The monitor system working ground resistance shall be less than 1Ω.
- The thunder proof ground shall adopt the special ground cable from the monitor control room to the ground object. The ground cable adopts copper insulation cable or wire and its ground section shall be more than 20mm2.
- The ground cable of the monitor system can not short circuit or mixed connected with the strong alternative current cable.
- For all the ground cables from the control room to the monitor system or ground cable of other monitor devices, please use the copper resistance soft cable and its section shall be more than 4mm2.

- The monitor system usually can adopt the one-point ground.
- Please connect the ground end of 3-pin socket in the monitor system to the ground port of the system (protection ground cable)

4. The shortcut way to check the electric system using the digital multimeter

For 220V AC socket, from the top to the bottom, E (ground cable), N (neutral cable), L(live cable). Please refer to the following figure.



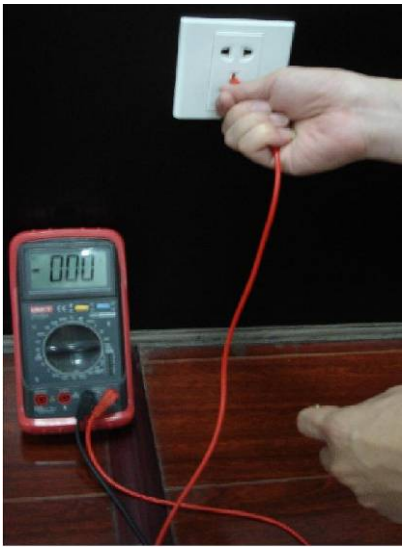
There is a shortcut way to check these thee cables connection are standard or not (not the accurate check).

Importance

In the following operations, the multimeter range shall be at 750V!

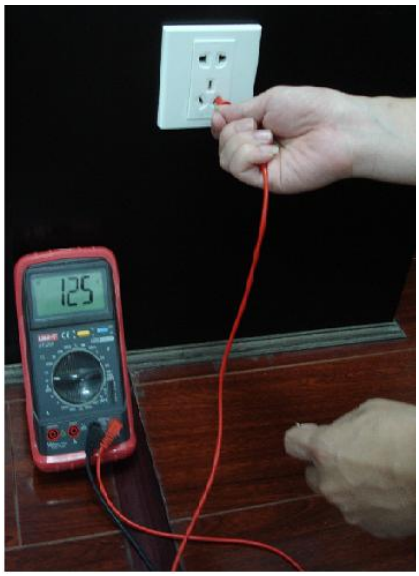
For E (earth cable)

Turn the digital multimeter to 750V AC, use your one hand to hold the metal end, and then the other hand insert the pen to the E port of the socket. See the following figure. If the multimeter shows 0, then you can see current earth cable connection is standard. If the value is more than 10, then you can see there is inductive current and the earth cable connection is not proper.



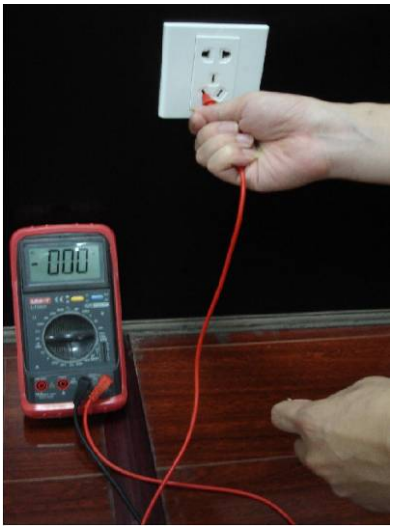
For L (live cable)

Turn the digital multimeter to 750V AC, use your one hand to hold the metal end, and then the other hand insert the pen to the L port of the socket. See the following figure. If the multimeter shows 120, then you can see current live cable connection is standard. If the value is less than 60, then you can see current live cable connection is not proper or it is not the live cable at all.



For N (Neutral cable)

Turn the digital multimeter to 750V AC, use your one hand to hold the metal end, and then the other hand insert the pen to the N port of the socket. See the following figure. If the multimeter shows 0, then you can see current N cable connection is standard. If the value is more than 10, then you can see there is inductive current and the neutral cable connection is not proper. If the value is 120, then you can know misconnected the neutral cable to the live cable.



Appendix H Toxic or Hazardous Materials or Elements

Component Name	Toxic or Hazardous Materials or Elements					
	Pb	Hg	Cd	Cr VI	PBB	PBDE
Sheet Metal(Case)	○	○	○	○	○	○
Plastic Parts（Panel）	○	○	○	○	○	○
Circuit Board	○	○	○	○	○	○
Fastener	○	○	○	○	○	○
Wire and Cable/Ac Adapter	○	○	○	○	○	○
Packing Material	○	○	○	○	○	○
Accessories	○	○	○	○	○	○

Note

O: Indicates that the concentration of the hazardous substance in all homogeneous materials in the parts is below the relevant threshold of the SJ/T11363-2006 standard.

X: Indicates that the concentration of the hazardous substance of at least one of all homogeneous materials in the parts is above the relevant threshold of the SJ/T11363-2006 standard. During the environmental-friendly use period (EFUP) period, the toxic or hazardous substance or elements contained in products will not leak or mutate so that the use of these (substances or elements) will not result in any severe environmental pollution, any bodily injury or damage to any assets. The consumer is not authorized to process such kind of substances or elements, please return to the corresponding local authorities to process according to your local government statutes.

Note:

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- **All the designs and software here are subject to change without prior written notice.**
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- **Please visit our website or contact your local retailer for more information.**